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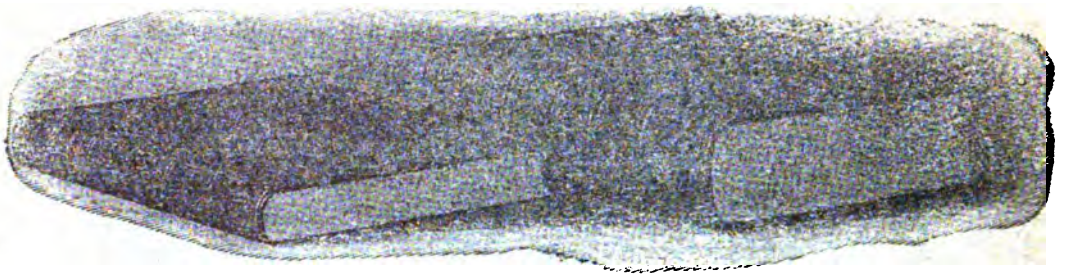

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There was no issue of SCHOOL WORK in November, *i. e.*, Vol X, No. 1. This January issue is a special one to take the place of the November issue. Our next regular issue, the March number, will be ready the latter part of February.

This consolidation includes three publications—CATHOLIC SCHOOL WORK, McEVOY MAGAZINE and SCHOOL WORK. There is no need of discourse upon the theoretical advantages of combining three school magazines published in New York City, nor is it prudent to say much about the merit of subsequent issues. Subscribers will judge for themselves, but let it be remembered that a valid conclusion under the inductive law requires more than one observation. Test at least three issues as basis for judgment, but let us have suggestions, manuscript contributions and other constructive assistance in the meantime.

Under the postal regulations the name McEVOY MAGAZINE must be retained to protect our rights to mail the publication as matter of the second class during this school year. A change of name will be made after July 1, 1912, if subscribers, advertisers and other interested parties favor the discontinuance of an individual's name.

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Many of our own subscribers will be disappointed in the increased length and width of the magazine this month, but this larger form will not interfere with the binding of all the numbers in Volume IV. The binder can trim the margins to the size of the September and the December numbers without affecting the printed matter. The larger form will be used hereafter unless subscribers express a preference for the other form.

CONSOLIDATION.

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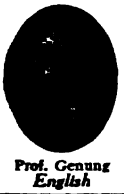
THE MARCH NUMBER.

This special issue is for the benefit of those subscribers for SCHOOL WORK who have received no issues since June, 1911. Under this urgent need, this first consolidated number cannot claim a place in satisfying our standard, but still no apology is offered for the merit of this January issue. It is clearly an equivalent for the proportionate share of the subscription paid. But the point is that the March number is our next regular number and as such it will embody all the features of interest to practical educators.



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McEvoy Magazine

INCLUDING

SCHOOL WORK aud CATHOLIC SCHOOL WORK

January, 1912

A Forum for the Discussion of Practical Problems in Elementary and High Schools

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McEVOY MAGAZINE

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SCHOOL WORK and CATHOLIC SCHOOL WORK

Published September, December, March and June.

Yearly subscription, $1.00 in advance; single copy, 30 cents.

THOMAS J. McEVOY, Editor and Publisher,

Box 73, Station L. 6 Third Avenue, Brooklyn, N. Y. Telephone, Main 5342.

Entered as second class matter at the Post Office, Brooklyn, N. Y., October 3, 1911.

McEvoy Magazine, Vol. IV, No. 2 Extra. JANUARY, 1912 School Work, Vol. X, No. 1

Features of the Work

in

The Boston High School of Commerce

By Principal JAMES E. DOWNEY

BOSTON, MASS.

The Boston High School of Commerce is in the sixth year of its existence. It was started in 1906 as an educational experiment and its progress since then seems to have justified its organization.

The school aims to fulfill two different functions. It aims to do the work of a public high school and to give the sons of taxpayers of Boston such education as their fathers are paying for; it also aims to give the business public an efficient corps of help. These two aims are nonconflicting; rather are they but two different points of view in looking at one and the same piece of work. The school does not aim to do college preparatory work in any way. Boys do go to college from this school, but they do so without receiving any special work to help them in their preparation; if the boys of Boston want to go to college, the attitude of the school is that they should go to one of the other excellent high schools in the city.

The school calls itself a School of Commerce rather than a Commercial High School: the latter centralizes its work around the distinctly commercial subjects and prepares particularly for secretarial positions. The former offers work in Modern Languages, Science, Mathematics, Economics, History, Commercial Subjects and English; it prepares its pupils for the distribution of goods—for the competitive side of business.

The course of study is practically a required one: during his course, the boy is allowed but three choices in the matter of selecting particular subjects. This position of the school is taken because it is reasoned that those intrusted with its management know better than the young boy what steps are necessary to take to go from the grammar school level, from which he came, to the level of business efficiency, for which he is striving. Again it is reasoned that a boy to

be successful in life must do many tasks for which he is not adapted and which he does not like; accordingly, if he is obliged to take up tasks in school which he does not like, or for which he is not adapted, he is but being treated in the way he will be in after life.

Since the school was not bound by any set of traditions or college entrance examinations, it was left to develop along those lines which seemed to serve best its aim. The result has been a school somewhat different from the other schools in Massachusetts. The object of this paper is to tell some of the ways by which it is trying to meet its problem.

Content of Subjects.

Since the school was established as a vocational school, vocational work must enter all studies as far as the general nature of the subject will allow. The aim of the school is clearly defined. The work of the different heads of departments in arranging their work was accordingly clearly defined; they had to see that the different subjects harmonized in their aim and content with the aim of the school. Accordingly, practically all subjects are taught with a vocational aim, but certain subjects, such as history, physics and geometry, are not offered as vocational subjects. By no means is any subject a fixture in the course of study nor is the method of handling any subject permanently fixed. Since commerce is in a constant state of evolution, a school which prepares for this field of activity must change to meet the new conditions; accordingly, new experience and new conditions will constantly be affecting the course of study.

Practical Work.

The general aim of the school must provide for much practical work in connection with the school and it must further study in careful detail the field for which the boys of the school are ambitious. The laboratories for obtaining this practical work must be the business houses and factories of the city: wherever commerce in any of its numerous features is being carried on, that place is of intense interest to the pupils of the High School of Commerce. While we must aim to make the air of business the air of the classroom as much as possible, yet much more than this must be done in order to have the boys get the practical experience that they must have. A technical high school can have its laboratories under its own roof; not so with a high school of commerce. This practical laboratory work is obtained principally by four different schemes: summer apprenticeship work, Christmas apprenticeship work, Saturday work and occasional assignments.

While this practical work is regarded as an important part of the school work, it is not necessary in order to earn the school diploma. Very few boys, however graduate from the school without having served an apprenticeship time of greater or less duration. The tradition of the school as now established is that a boy is in more or less disgrace if he has not had some good business experience before graduation. A boy in taking up this apprenticeship work realizes that it not only helps him in his school record, but it also helps him very much after graduation, for at that time he can present himself as a candidate for a position not as an inexperienced boy, but as one who has probably earned a good letter of recommendation from one of the business firms of the city. The thought is constantly put before the minds of the boys that they are expected to be on the lookout for some practical business experience at a time when the school encourages such employment on their part. They are told that while the school can give a certain number of them such temporary positions, yet they show a greater degree of initiative and they receive from the school much more credit when they find their own positions. The pupils take the attitude of the school so seriously that they frequently put forward the statement that the folks wish to take them to the shore or the country

for the summer, or the folks think that they are too young to begin work yet, but that if it is the best advice of the school that they work, they are willing to do so.

Summer Apprenticeship Work.

The greater part of this practical work is obtained during the summer. During the past summer, three hundred fifty-two of our present three upper classes worked under this summer apprenticeship scheme. The average wage of these boys was a little over $4.00 per week. About half of the positions were obtained by the teachers of the school and about half by the pupils themselves. This number who worked represents about 66% of the pupils now in school who were members of the school last year. In the present senior class the percentage of those who worked is higher, of course, than it is for the boys in earlier classes: in that class 88% of the boys worked. Only a very few of those who wisned to work were without positions. The method of obtaining these positions is a matter of detail which does not properly belong to a paper of this length. It will be sufficient to say that six teachers of the school delegate to themselves the work of finding positions for those boys as well as positions for the graduates of the school. This work is not looked upon as drudgery by these teachers, but rather as an opportunity to come into contact with some broadening influence which has a decided value in classroom work. Everywhere these teachers are received with the greatest cordiality and welcome

The boys who are thus sent out on this summer work are obliged to bring back to the school a report of their summer work. Appropriate cards are furnished and the boys are marked for such characteristics as neatness, application initiative, etc. The marks are entered by the business men for whom the boys worked and the cards received are placed on file in the school. When a boy is graduated, these reports, together with the reports of the school, determine what boys shall be considered for the various positions to be filled by the graduates of the school. The boys show an intense eagerness to bring back as good a report as possible and this ambition on their part may account for some of the good things that the merchants of Boston say about the worth and work of the product of the school.

Christmas Apprenticeship Work.

Further practical experience is obtained at Christmas time, when the boys of the school who have obtained a certain rank in scholarship are allowed to work in the stores for three or four weeks. For this work they receive a little more pay than they receive during the summer. During the Christmas season of 1912, 110 boys out of 950 enrolled in the school, worked under this scheme.

This scheme is justified because such work is decidedly in harmony with the aim of the school. It is true that they lose some of their school work, but it is hoped that they get more than enough good out of their practical experience to offset their loss in classroom work. Only such boys are allowed to go as are willing of their own accord to do a certain minimum amount of the school work covered by their classmates in their absence. Boys who are high enough in their scholarship are the kind of boys who do not need to be told what is the proper thing to do about their studies: they need only to be directed. The marks of the 55 boys allowed to go out under this scheme for the Christmas season of 1910 were compared for November 1 and for March 1, and the marks that the boys received on the latter date, in practically all cases, were as good as on the former date or better. It is quite reasonable to suppose that as the tradition becomes well established in school in succeeding years the eagerness to be allowed to go out to work at this time will serve as an incentive for a higher grade of work. It is interesting to note that about one-fourth of those

eligible to work under this scheme prefer to stay at their school tasks, and such boys are commended for their decision.

Other Practical Work.

The school gives the boys another opportunity for practical experience by sending them out a day at a time for particular tasks. When houses in the city have a particular task on hand which requires extra help for a day or so, they give the privilege to the school to furnish such help. Boys who were not allowed to go out at Christmas time are sent on these tasks. They receive about $1.00 a day for such work. From Jan. 1, 1911, to July 1, 1911, about 250 boys were sent out under this scheme.

The school makes a further effort to get practical business experience in securing Saturday positions for the boys. This work is hardly begun as yet in a way as to make it an important feature of the school: it is only started as yet, but it has so much merit in it that the next few years will see its usefulness greatly increased. Up to the present, about 25 places have been secured by the school: in addition many more places have been found by the boys.

Vocational Guidance.

Since the school is a vocational school, it must help direct the boy into that path of life where he can work to best advantage. The general aim of the boy is for a business career, but usually he does not know which one of the innumerable paths of the business activity of the city to follow. The school tries to help him make up his mind in this regard in various ways.

From his very first days in school, the boy has presented before him the different business possibilities of the vicinity of Boston as far as the opportunities of the school allow, and the boy is urged to be on the lookout to see which one of these various opportunities is the one which will be the goal of his ambition. These business possibilities are shown in various ways, but in four principally: a large number of lectures are given before the school during the year. The general thought running through all these lectures is vocational guidance and they are given by such men, usually business men, as have particular knowledge of the subject presented. Probably fully 90 such lectures are given in the course of any one year. Some of these lecturers are paid, but the greater number of them contribute their services. Boston is particularly rich in the number of men who can and are willing to talk in this general series of talks. This is evidenced by the fact that the school cannot find room in its program to accommodate all its friends who are thus willing to help it in its work. This statement is so true that already we are planning some talks for next year and some for years hence.

Further help is given the boys in sending small groups of boys to study particular phases of the business life of the city on the spot. This work is explained in the following paragraph in the last annual report of the Business Men's Advisory Commitee of the School.

Excursions to Business Houses.

During the past year 43 excursions have been conducted to business houses: 849 pupils took part in these excursions. On all sides, the school has received, from the business houses approached, the most cordial co-operation in carrying on this work. The business conditions studied are those of special interest to the group of pupils going on any particular trip. The benefit gained by the pupils allowed to go on these trips is very great. Each visit is usually followed by a cordial invitation to "come again."

In the classroom, especially in the study of local industries in commerical geography and in the industrial chemistry course, frequent opportunities are given the teacher to present the local resources and the opportunities in a way that is helpful to the boy in shaping his career.

Individual vocational guidance is given as in any high school, and such individual guidance is particularly valuable in this school because of the one aim of the school. Business opportunities for the pupils of the school are constantly before the minds of the teaching corps, and wherever the opportunity is seen, an attempt is made to fit the proper boy into this opportunity. Three of the teachers have charge of the continuation schools in the city pertaining to the leather, dry goods and banking activities. Their work in these schools gives them excellent opportunities to know what the movement of affairs in these lines is in the city and they are of much assistance to boys who wish to enter these fileds of activity.

School Hours.

Not by any means is the primary obpect of a high school neglected. The school is in session from 8:55 to 2:45; practically a 6-hour session. Periods are 45 minutes in length, exclusive of passing time. The day is broken up into 6 periods of 45 minutes each. At the end of the first two periods, there is a "setting-up" drill of 10 minutes; at this time the class is led through a series of light gymnastics by one of their members. At the end of the fourth period, there is a recess of 24 minutes, followed by a study period of 15 minutes. The object of this short study period is to give the pupil a chance to gather his thoughts before starting on the last two periods of work, and it relieves to a great extent the difficulty of teaching during those few moments just after recess when the boy's thoughts are not entirely on his school work. The work of the school is practically all classroom work: there is very little laboratory work done. It is thought that such a program is conductive to habits which will make a boy a valuable member of the business community.

Athletics.

Athletics are strongly encouraged. They are supported by an athletic association, membership in which costs 50 cents a year. Ninety-five per cent of the school belong to this association. Enough money is raised in this way to carry on properly all athletics in school. Accordingly, whenever possible to get our rivals to agree, admission to contests is free to boys of school; in all other cases, admission is reduced to as low a price as possible. This scheme of not constantly calling on the boys to support one athletic activity or another at a particular game is very much in harmony with the policy of the school to encourage thrift and saving on the part of the pupils rather than the spending of their resources.

The policy of the school is to have as many as possible take part in any one sport. In football, two teams are maintained and each has its own schedule to go through. In baseball, the same is true: in adition, each of the twenty-five home rooms of the school has a baseball team and a regular schedule of games is carried on for the class.

Similarly, each room is required to have its own track team and basket ball team. Basket ball is carried on only between teams within the school, but the track meets are held with other schools in addition to the ones carried on between the different teams of this school. This manner of handling school atheltics results in much enthusiasm, as is evidenced by the daily sight of 100 boys in gymnasium clothes practising in the gymnasium after school hours. The matter of taking part in such sports is due only to school spirit or to personal pleasure.

School Savings Bank.

The way in which the school attempts to teach thrift is shown by presenting a circular letter sent to the parents of the school recently:

Efficiency Bulletin No. 18.

January 2, 1912.

Please keep this and read it occasionally during the year.

To the Parents of Pupils of the Boston High School of Commerce:

As you perhaps already know, the Legislature of last year, acting upon the recommendation of the Bank Commissioner to provide for the compulsory instruction of thrift in the public schools, passed an Act authorizing savings banks to receive deposits from pupils in the public schools of the state.

When the matter was brought to my attention by the Bank Commissioner, I immediately saw what an excellent idea it was and I at once took steps to organize a savings bank in the High School of Commerce under the provisions of the Act. In order that the bank be established in such a way as to make the strongest possible appeal to the parents as well as to the pupils, and make the lessons to be learned in thrift and systematic saving as effective as possible, there were numerous details to be worked out. For this reason the bank was not ready to receive deposits until November 17, but the large number of accounts opened on that day and the interest shown by the boys insured the success of the bank as a regular part of the School activities. The Home Savings Bank has been selected to receive the deposits and the school committee has approved of the selection. This bank is very carefully managed, insuring the greatest degree of safety to depositors: at present it pays 4% compound interest on all deposits of $3 or over.

One day each week is known as "Bank Day," and during one period of that day, pupils desiring to make deposits go from their several rooms to the banking room and make their deposits, the amount of each deposit being entered upon a "Deposit Card" which will be kept by the pupil. The money so received is deposited in the Home Savings Bank in my name as Trustee. When the total amount deposited by any one pupil amounts to $3. the Home Savings Bank, on the last "Bank Day" preceding the quarterly dates on which money goes on interest, will issue a depositor's pass book to him and thereafter when the amount deposited by him equals the sum of $1 it shall be transferred by the bank to his pass book. Deposits made by the pupils may be withdrawn in whole or in part on any "Bank Day" by an order signed by both pupil and parent or guardian. Deposits of five cents and upwards are received. On "Bank Day" the Home Savings Bank sends a representative to the school to receive the deposits of that day, but all clerical work connected with the receiving of deposits is done by pupils chosen for their fitness to do that work. In order that the pupils of the school may, in addition to cultivating habits of thrift, gain practical experience in banking, as much of the work connected with the operation of the bank as is expedient is done by the pupils. They have already elected a Board of Trustees, each home room having a representative on the board, and this board has elected its own officers, a President, Vice-President, Secretary, Treasurer and Assistant Treasurer.

To aid in assuring the success of the High School of Commerce Savings Bank we ask your earnest co-operation by giving the boys all the encouragement you can. There are numerous little ways in which boys can save if they are reminded of them and it should not be difficult to show them the wisdom of doing so. We earnestly believe that the teaching of thrift goes hand in hand with the training for business which the boys of the High School of Commerce are receiving and we think you will agree with us that in no way can the school be of greater or more permanent benefit to its pupils than by helping them to form early in life habits of thrift and economy.

Finally, the High School of Commerce Savings Bank does not wish to interfere with any scheme of saving which certain boys of the school may be carrying out. In such cases it is for the boy and the parents to decide as to whether it

would be a wise thing to transfer his savings to the school savings bank.

Very sincerely yours,
JAMES E. DOWNEY,
Head Master.

It may be added that all work necessary to carry on this bank is done by the pupils of the school, acting under the direction of one of the teachers of the Business Technique Department. This experiment has not gone far enough yet to make any extended report. It seems to be more than justifying its organization: the deposits have averaged thus far over $150 weekly. All the blanks used in connection with this work are specially printed for the school and bear the words "High School of Commerce Savings Bank, Boston, Mass."

Persistence of Students in School.

Much interest is manifest as to how the pupils of the school persist. A few facts in this line may be instructive. Of the 323 pupils who entered the school September, 1910, including 26 from other high schools, 48 (including 7 of those entering from other high schools) withdrew before the end of the year: that is, about 86 per cent of the entering class persisted throughout the year. Of the 265 belonging to the second year class, July 1, 1910, 29 failed to return in September and 37 left during the year: that is about 75 per cent of the second year class persisted from July 1, 1910 to July 1, 1911. Of the 202 belonging to the third class, July 1, 1910, 23 failed to return in September and 26 more left during year: that is about 76 per cent of the third year class persisted from July 1, 1910 to July 1, 1911. Of the 98 beonging to the fourth year class Juy 1, 1910, 6 failed to return in September and 4 more left during the year: that is about 90 per cent of the fourth year class persisted from July 1, 1910 to July 1, 1911; about 45 per cent of those who entered stayed through to graduation. Of the total number who entered the school during the school year 1910-11, about 86 per cent of them persisted throughout the year. The figures for this year in matters of attendance have been about the same as have prevailed in the school during the previous four years.

Membership of School.

The total enrollment of the school has been as follows: for the years 1906-07, 141; 1907-08, 332: 1908-09, 554; 1909-10, 721; 1910-11, 837. During the past three years, the accommodations have not been sufficient for all the pupils who wished to be enrolled.

The above facts are the more important features of the school as a vocational school that the educational public is interested in. Certain other experiments are carried on in the various phases of the school work, but they are not characteristic of the school as a vocational school. Those intrusted with the management of the school feel as though it has hardly scratched the surface of the work: the real possibilities of the school are yet to be found out and to be worked out. Whatever is written or said as yet must be received only as a report of progress.

Sewing in the Elementary Schools

By ANNA G. BUTLER, Supervisor of Sewing
Districts 39 and 40
BROOKLYN, N. Y.

The development of manual training follows the historic development of the race. In the early ages before mental activities were highly developed, people were able to live by means of their motor activities and physicial senses. The savage did not exercise his intellect in providing for himself, but worked in response to a feeling of need.

It also follows the historic development of education. Pestalozzi was the first to discover the psychological basis of manual training. He found that the proper and natural development of the intellectual activities depends upon the development and training of the child. His principles were further worked out by Froebel in directing the child's self-activities into educational channels. This work was later continued and systematized and taught for its utilitarian value in the schools of Horace Mann and John Dewey.

The aim of introducing manual work in the elementary schools is to develop in the young child the power of expression through doing; to develop skill, accuracy and neatness in handling material; to cultivate the power of observation, and to train the hand and the eye to work together. The employment of the hands in practical work furnishes both pleasure and recreation and in the higher grades serves as a balance for the more difficult intellectual studies. In the selection and combination of materials and colors, the foundation of good taste may be laid and the much-neglected aesthetic element in education can be developed.

When a child is given something to make, he first plans the whole, thus employing his imagination. In order to accomplish his aim, he uses his judgment and reason and becomes self-reliant and independent. His will is trained to work for the definite aim.

Since work is the natural occupation of every individual, the early years of a child's life should be a preparation for useful work in later years. The greater part of the world's population lives by the work of the hand and ninety per cent, at least, of the school-going children will in the future have to live by manual work. For this reason, the public school curriculum should include at least a reasonable amount of instruction in practical industrial work. Children should be taught the dignity of manual labor, to have a proper respect for it and to realize the social value of those engaged in it.

In teaching sewing to girls in the public schools, the object is not only to be able to cut and make the garments they wear, but to restore to its proper place in the home this useful household art, to give it the dignity it once had, and to awaken and develop a disposition and inclination toward all kinds of useful domestic occupations. Girls should be taught to take pride in being able to mend and repair in such a way as to keep their clothing always neat, attractive, and in a good state of preservation.

Almost up to the present generation, girls were taught these domestic duties in their homes. Special and careful instruction in sewing, mending and darning was given them by their mothers. This was especially true in colonial days when sewing was such a fine art. Together with this, additional instruction was given in sewing circles and sewing classes connected with different social organizations and clubs. This is still

true in rural districts and in smaller cities and towns; but owing to changed social conditions it is no longer true in large cities where the mothers of the poorer class either go out to work every day or take in work of some specialized character, and have neither time nor opportunity to teach their children any of the household arts.

It is to remedy this lack of opportunity for useful manual work in the lives of the poorer children, who form the vast majority of our school population, to give them an opportunity of recognizing their own powers to pursue economic industries, and to enable them to improve their social efficiency, that this work has been introduced in the public schools. It is one of many duties formerly belonging to the home but constantly devolving upon the school. All that can be accomplished along this line will be an economic gain to the coming geenration.

ADAPTABILITY OF THE COURSE OF STUDY.

1st and 2nd Years.

Cord and raffia are materials easily handled by the youngest children. In these early years, the work begins with simple, coarse knotting with large cord. The finer work is left until the child is sufficiently matured so that the nerves controlling the smaller muscles will not be prematurely developed. The making of these knots does not involve the smaller accessory muscles of the hand, but the larger, older and stronger ones. On this careful development and training, depends the development and adjustment of the finer accessory muscles.

From these coarse knots, the children progress to the smaller knotting and looping with raffia. It is a proper training in motor activity, a correlation of hand and mind.

These processes are applied in the making of chains, portieres, sponge or twine bags, picture frames, hammocks, napkin rings, shopping bags and other articles useful in the home or school.

3rd Year.

In this year, the boys are taught to weave mats, wall-pockets, hammocks and rugs, and to make sewed raffia baskets. These primitive processes are always interesting to boys on account of economic value of the processes. Care is taken to use good taste in selecting and combining colors for these articles.

By using coarse canvas with large needle and heavy thread, the girls are taught th 'r first elementary stitches, the correct position of needle and thread, and the proper use of a thimble.

Practical application is made in needle-books, iron-holders, pin-cushions and cornucopias.

After the work on canvas is completed, the same elementary stitches are reviewed on muslin with small needle and thread, as the stitches are used later in garment making. These stitches are applied in making pin-balls, button-bags, pencil-cases and doilies. This is the time when the girls should be taught a complete mastery of their tools as the work of the third year is a connecting link between that of the first two years and that of garment making in the higher grades.

4th Year.

In this year, more advanced stitches are taught, also the fancy stitches to be used later in decorating garments. The simplest and neatest methods of patching, mending and darning are taught, and in connection with these, lessons in economy are given. Time and material can be saved by mending a garment while the hole is still small—"a stitch in time saves nine."

Practical application—patches, stocking darn, small size apron, flannel skirt and flannel sack.

The small size garments made in the lower grades are used as models for reference in making full size garments.

5th Year.

In this year, the planning, drafting, cutting and making of full size garments are begun; also the cutting and

working of buttonholes. Lessons are given on the different fibres from which textiles are made, estimating the amount of material needed, and economy in buying, as regards quantity, quality and color.

Practical application — buttonholes, lawn aprons and flannel skirts.

6th and 7th Years.

Here the work of the fifth year is continued and extended.

Practical application — underwaists, marguerites, muslin skirts and other articles of underwear; garments for small brothers and sisters.

8th Year.

Work on full size garments continued and applied in making shirtwaists and dresses, and where practical, graduation dresses are made.

In New York City during the year 1910, 406,938 children received instruction in cord and raffia work and sewing; 61,000 full size garments and 1,200 graduation dresses were made.

The cost per child for material used in the 1st and 2nd years was 6 cents per term. In the 3rd year boys' classes, the cost per child was 7 cents per term. In the other grades, the girls furnished their own material for full size garments, and the cost per child for needles, pins, thread, etc., was from 3 to 6 cents per term.

Nature Study

For 4B Grade in New York City

By A QUEENSBORO TEACHER

STEMS

Requirements of the Course of Study.

I. Forms of stems: erect, prostrate, climbing by tendrils, twining by stem or petiole.

II. Why plants seek erect position.

III. Underground stems (potato), and underground bulb (onion).

IV. The uses of stored nourishment to plants.

It is well to consider first what the stem of a plant is. "The work of taking in the raw materials, which the plant makes into its own food, is done mainly by the roots and the leaves. These raw materials are taken from earth, from water, and from air. The stem is that part or organ of the plant which serves to bring roots and leaves into communication with each other. In most flowering plants, the stem also serves the important purpose of lifting the leaves up into the sunlight, where alone they best can do their special work." (Bergen.)

I. FORMS OF STEMS.

1. ERECT. There are four types of erect stems, all of which are very familiar.

(a) The columnar type. The sunflower, the cornplant, the mullein, and the Easter lily are examples of this type. In these the principal flower head terminates the stem. The foliage part under normal conditions does not branch, but sometimes when the main axes is injuried or broken, branching occurs. We find this type among trees also (for the *trunk* of a tree is its stem) in the Lombardy poplar, the royal palm and some cedars.

Note—For the advantages of this form of stem to the plant, see Atkinson's *College Botany.*

(b) The cone type. In this type the

The sunflower: columnar type.

outline of the tree follows the form of its fruit. The cone-bearing trees are of this form, of which trees the white pine is one of the best examples. In this type the lower branches spread far out, the others becoming shorter as they approach the top of the stem.

(c) The oval type. This type does not belong to the evergreens but the oval trees are usually deciduous, and this shape is more easily discerned in the winter when the tree is bare. The apple tree is a good example of this type. The main axes is not marked as in the cone type; it often disappears, because the branches keep an ascending tendency and are large so that a main axis is not needed.

The spruce: oval type.

(d) The deliquescent type. The tree begins low to branch at a narrow angle, and spreads out in a vase shape. The elm is a good example of this type.

The elm: deliquescent type.

2. PROSTRATE. We find these in creeping plants, plants that keep close to the ground as the strawberry, the squash, the pumpkin, etc. The plants cling to the ground and thus they are protected from the cold and the wind. Because plants of this kind are supported by the ground, the stems have little strengthening tissue.

3. CLIMBING BY TENDRILS. Of this type the grapes, ivies, some roses, and clematis are common examples. These plants send out small spiral shoots called tendrils. By winding these shoots around other bodies, the plant support itself. A vine will often climb to the top of a tall tree, send out branches over the top of the tree, and display foliage enough to kill the foliage of the tree.

4. TWINING BY PETIOLE OR STEM. The hop, the bean and the morning-glory are of this class and are called twiners. The top of the plant swings out and describes a circle about the body to which it is to cling. The circle described is often two feet in diameter. Some plants swing their petioles from left to right, others from right to left.

II. WHY PLANTS SEEK AN ERECT POSITION.

Most plants need a great deal of foliage area in order to carry on the work of converting raw materials into food. To secure a large foliage surface, at the same time exposing the leaves to sunlight which is essential to the work of starch-making in the leaves, a plant grows upward, sending out branches along the way to hold out the leaves. It takes comparatively little space laterally, and there need be no economy of space upward, so the surface problem is solved. In order to adapt themselves to environment and climate, plants follow various modes of branching as their stem takes its upward direction.

III. UNDERGROUND STEMS.

Plants must store food during the winter to have something upon which to begin their growth the following spring. Plants having erect stems find their branches and trunk the best storage house, but plants whose stems are prostrate or underground must store in their roots or subterranean stems. These that use their under ground stems as a store-house are called *tubers* and to this class the "Irish" or white potato belongs. The eyes are rudimentary leaves and buds, and the eyes follow the same order as the leaves on the aerial stem.

UNDERGROUND BULBS. The onion, tulip, Chinese lily and hyacinth are of this class.

1. The onion has a *coated* bulb, being a leag basis whose top has died.

2. The tulip has a scaly bulb which is reduced leaves.

IV. USE OF STORED NOURISHMENT TO PLANTS.

Plants that store an amount of nourishment during the winter have rapid growth in the spring. This is easily observed in the rapid grouth of the tulip, hyacinth and onion. Starch is one of the most important materials stored and can easily be seen in the potato, by cutting it through and letting it dry.

BIBLIOGRAPHY.

Bergen—Foundation of Botany; Ginn & Co., 1904.

Atkinson—College Botany; Holt & Co., 1905.

Asia

Essentials Outlined

By CHRISTIAN R. STEVENSON,

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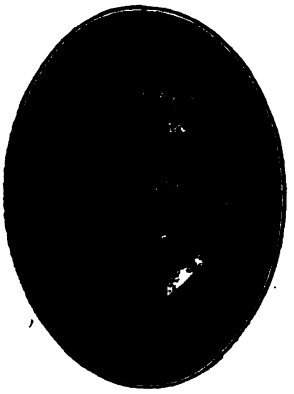


Mr. STEVENSON

Other Outlines.

A complete outline of South America was given in the September number, 1911. That outline has ben reprinted in pamphlet form at 10 cents a single copy or $5 a hundred.

The outline of Europe will be reprinted if teachers make the request. That outline was published in the McEvoy Magazine in September, October and November, 1910.

An outline of the United States is in preparation for the March issue.

MAIN PART OF CONTINENT OF EURASIA.

LOCATION.

1. Hemispheres—Northern part of eastern hemisphere.

2. Zones—North Frigid Zone, northern part of Asia.

North Temperate Zone, all the central part of Asia.

Torrid Zone—Southern part of Asia. All southern peninsulas.

3. Direction from other continents.

East and southeast of Europe.

East and northeast of Africa.

West of North America.

BOUNDARIES.

North—Arctic Ocean.

East—Bering Strait, Bering Sea, Pacific Ocean.

South—Bay of Bengal, Indian Ocean, Arabian Sea.

West—Red Sea, Mediterranean Sea, Black Sea, Caspian Sea, Ural River, Ural Mountains.

SIZE.

The largest of all the continents, 1/3 of all the land on earth's surface.

Larger than North America and South America combined.

2⅛ times as large as North America.

2½ times as large as South America.

1½ times as large as Africa.

4½ times as large as Europe.

5½ times as large as Australia.

Extends from about 1°-78° north latitude.

Extends from about 26° east longitude to 170° west longitude.

SHAPE.

Roughly rectangular. Compact.

Compare with North America.

COAST LINE.

Very irregular.

Coast bordered by a series of bays, gulfs, and seas extending from Bering Strait to Red Sea.

Many excellent harbors.

SURFACE.

Divided into three parts.

1. Great Asian Highland in central part.

2. Great Siberian Plain in the north.

3. Lesser plains in the south an deast.

Great Asian Highland.

Consists of mountain ranges and plateaus.

The great mountain ranges that form this highland radiate from the Pamir Plateau, "Roof of the World." These ranges and plateaus form the great continental divide which separates the long rivers of the North and West from the shorter streams which flow south and east. Communication between northern and southern Asia is very difficult; only one low pass through all this highland area.

1. Important Plateaus.

(a.) Tibit—Average height, 15,000 feet.

Dry—Almost a desert. High surrounding mountains keep off rain.

(b.) Gobi—desert region. Compare with Great Basin in North America.

(c.) Iran—5,000 feet high; enclosed by mountains.

(d.) Deccan—low plateau of India.

2. Important Mountain Ranges.

(a.) Himalayas—"Abode of Snow"—south of Tibit; north of India. Highest mountains in the world. Include Mt. Everest, the highest peak in the world, more than 5½ miles high.

(b.) Altai—Many small ranges in central Asia.

(c.) Thian Shan—Extend northeast from Pamir.

(d.) Hindo Kush—Extend west from Pamir.

(e.) Suliman Range—Extends south from Pamir.

(f.) Ural Mountains—Separate Europe and Asia.

(g.) Caucasus Mts.—Separate Europe and Asia.

Great Siberian Plain.

Continuation of Great Plain of Europe. Extends from Caspian Sea to Bering Sea. Along Arctic coast are frozen tundras. South of tundras are wooded plains. Around the Caspian Sea are grassy plains or steppes.

Plains of the East and South.

The most important of Asia. Populous; the most thickly settled region of the world is found on these plains.

MOUNTAIN PEAKS.

Mt. Everest—Himalayas, India. Highest in the world.

Dapsang—Tibit.

Kanchanjanga—Himalayas, India.

Demavend—Persia.

Ararat—Turkey.

Mt. Hermon—Turkey.

Elburz—Russia.

Fujiyama—Japan.

DRAINAGE.

Rivers.

Generally long and navigable for hundreds of miles. The large rivers of the north are frozen for the greater part of the year. The great rivers of the south and east are navigable for long distances and are used extensively for internal commerce. Natural highways.

1. Euphrates River—Rises in table land of Asia Minor, flows southeast into Persian Gulf.

2. Tigris River—Rises in table land of Asia Minor, flows southeast into Persian Gulf.

Both the Euphrates and the Tigris flow through an historic valley which for centuries was inhabited by a thriving branch of the white race.

3. Indus River—Rises in Himalaya Mountains, flows southwest into Arabian Sea.

4. Ganges River—Rises in the Himalayas Mountains, flows southeast into Bay of Bengal.

5. Yangtze River—Rises in the Kuenlum Mountains, flows east into China Sea.

6. Amur River — Rises in Yablonoi Mountains, flows northeast into the Sea of Okhotsk.

Lakes.

1. Aral—Western part, in Turkestan.
2. Baikal—Central part, in Siberia.
3. Dead Sea—Northwestern part of Arabian Peninsula.
4. Caspian Sea—Western part between Europe and Asia.
5. Balkash—Central part in Turkestan. The Dead Sea and Caspian Sea are below sea level. They are called seas but they are true lakes.

SEAS.

1. Bering Sea—Northeast of Asia. Arm of Pacific Ocean.
2. Okhotsk Sea—East of Asia. Arm of Pacific Ocean.
3. Japan Sea—East of Asia, between Korea and Islands of Japan. Arm of Pacific Ocean
4. Yellow Sea—East of China, between China and Korea. Arm of Pacific Ocean.
5. East China Sea—East of China. Arm of Pacific Ocean.
6. South China Sea—Southeast of Asia. Arm of Indian Ocean.
8. Red Sea—Southwest of Asia, between Asia and Africa.
9. Mediterranean Sea—West of Asia Minor.
10. Black Sea—North of Asia Minor, between Asia and Europe.
11. Sea of Marmora—North of Asia Minor, between Asia and Europe.
12. Kara Sea—Northwest of Asia. Arm of Artic Ocean.
13. Aegean Sea—West of Asia Minor.

GULFS AND BAYS.

1. Gulf of Tartary—East of Asia, between Siberia and Sakhalin.
2. Gulf of Pechili—East of China.
3. Gulf of Tonkin—East of Indo-China.
4. Gulf of Siam—South of Siam; east of Malay Peninsula.
5. Gulf of Manaar—Between India and Ceylon.
6. Bay of Bengal—South of Asia.
7. Gulf of Cambay—West of India.
8. Gulf of Cutch—West of India.
9. Gulf of Oman—South of Persia. Arm of Indian Ocean.
10. Gulf of Persia—Southwest of Persia, between Persia and Arabia.
11. Gulf of Aden—South of Arabia, between Arabia and Africa.
12. Gulf of Martabon—South of Burma.

STRAITS.

1. Bering Strait connects Bering Sea and Artic Ocean.
2. La Perouse Strait connects Japan Sea and Okhotsk Sea.
3. Korea Strait connects Japan Sea and China Sea.
4. Strait of Malakka connects Bay of Bengal and South China Sea; separates Sumatra from Malay Peninsula.
5. Polk Strait connects Gulf of Manaar and Bay of Bengal.
6. Strait of Ormus connects Persian Gulf and Gulf of Oman.
7. Strait of Bab el Mandeb connects Gulf of Aden and Red Sea.
8. Dardanelles connects Aegean Sea and Sea of Marmora.
9. Bosporus connects Sea of Marmora and Black Sea.

CHANNELS.

Formosa Channel, between Formosa Island and China.

ISLANDS.

1. Sakhalin—East of Asia in Okhotsk Sea.
2. Japanese Islands—East of Asia in Pacific Ocean.
3. Malay Archipelago or East Indies—Southeast of Asia. Composed of Sumatra, Java, Borneo, Celibes, Philippines and other islands.
4. Hainan—East of Asia in South China Sea.
5. Andaman Islands—South of India in Bay of Bengal.
6. Ceylon—South of India in Indian Ocean.
7. Laccadive Islands—South of Asia in Indian Ocean.

Indian Ocean.

8. Maldive Islands—South of Asia in

9. Sokotra Island—South of Arabia in Indian Ocean.

10. New Siberian Islands—North of Asia in Artic Ocean.

PENINSULAS.

1. Kamchatka — part of Siberia; northeast part of Asia.
Asia.

2. Korean — Korea; eastern part of Asia.

3. Malay — Southeastern part of Asia.

4. Indo-China — Indo-China and Siam; southern part of Asia.

5. Indian or The Deccan — India; southern part of Asia.

6. Arabian — Turkey and Arabia; southeastern part of Asia.

7. Asia Minor — Turkey; western part of Asia.

8. Taimur—Siberia; northern part of Asia.

CAPES.

1. East Cape—Northeastern part of Siberia.

2. Cape Lopatka—Southern part of Kamchatka.

3. Cape Cambodia — Southern point of Cochin China.

4. Cape Romania — Southern point of Malay Peninsula.

5. Cape Comorin — Southern point of India.

CLIMATE.

Owing to its size, Asia has the most strongly marked continental climate in the world.

Temperature ranges from excessive heat of tropics to the extreme cold of Artic regions.

1. Heat Belts.

(a) Hot belt—Three peninsulas of southern Asia.

(b) Warm belt—Three peninsulas of southern Asia.

(c) Cool belt—Extends from central highland region to Artic circle.

(d) Cold belt—Northern part of Asia.

2. In summer the desert belt of Central Asia becomes intensely heated. This causes the warm air to rise and the cooler breezes blow in from the Indian and the Pacific Oceans. These winds are called Monsoons. This causes a heavy rainfall in southern and eastern Asia.

3. In winter, Central Asia is cold and the winds blow outward from the land to the sea; therefore all rainfall is light.

4. Southern Asia has hot, moist, tropical summers and warm dry winters. Like Europe it is protected from the north by high mountains.

5. Central Asia—Cold winters; hot summers.

6. Eastern Asia—Mild climate, due to influence of ocean.

7. Western Asia—Very dry; short summers, cold winters.

8. Northern Asia—Very short summers; very long, cold winters; temperature often goes to 90° below zero; average temperature in N. E. Siberia, in January, is 60° below zero. This Siberian region is called the "Cold Pole."

VEGETATION.

There are four principal belts of vegetation.

1. The frozen tundra belt of the north producing mosses, lichens, and dwarf trees and bushes.

2. The grain and forest belt lies just south of the tundra. This belt extends through southern Siberia and China. Grain grows in Siberia; rice, tea, and bamboo grow in China.

3. Desert region in the central part; little or no vegetation.

4. Southern part; the region of vine, sub-tropical, and tropical vegetation; banyan tree, coffee, opium, indigo, teak, etc.

MINERALS.

1. Gold—Siberia and India.
2. Silver—Central part of Asia.
3. Coal—Siberia, China, India, Japan.
4. Tin—Malay Peninsula.
5. Copper—India.

6. Lead—Siberia.
7. Iron—Siberia, India, China.
8. Sulphur—Japan.

The mineral resources of Asia have not been extensively developed because of the poor quality of coal and the fact that the Chinese do not like to work underground.

ANIMALS.

1/3 of all known species found in Asia.

1. In tundras—Reeindeer and fur-bearing animals.
2. In southeastern part—horses, asses, and cattle.
3. In southwestern part—camels, sheep and goats.
4. In highlands—yak.
5. In southern part—Elephant and buffalo have been domesticated; the tiger, lion and other wild animals.

PEOPLE.

Half of the human race lives in Asia. Five-sixths of the people in Asia live in the monsoon area, or region of greatest rainfall. These are the most densely puopulated regions of the world.

Three Races.

1. Caucasian—on slopes that face the Indian Ocean.
2. Mongolian—on slopes that face the Artic Ocean and Pacific Ocean.
3. Malay—in the Malay Archipelago.

OCCUPATIONS.

1. Agriculture—most important industry; carried on extremely in all sections; irrigation used extensively.
2. Herding—mountain regions.
3. Mining—not carried on extensively because of unprogressiveness of people; China, Siberia, India, Malay Peninsula, and Western Asia.
4. Manufacturing—only slightly developed, mainly hand work, few machines; China, Japan, and India.
5. Fishing—coast countries.
6. Pearl fishing—Ceylon and Arabia.
7. Commerce—Foreign commerce is carried on mainly by foreign countries.

Internal commerce is carried on by means of rivers and caravans. Overland transportation facilities poor. Railroads being built by foreigners.

COUNTRIES.

1. Japan.
2. China.
3. India—Belongs to British Empire.
4. Persia.
5. Turkish Empire
6. Siberia—Belongs to Russia.
7. Turkestan—Belongs to Russia.
8. Caucasia—Belongs to Russia.
9. Arabia.
10. Afghanistan.
11. Baluchistan—Belongs to British Empire.
12. Nepal.
13. Bhutan.
14. Siam.
15. French Indo-China—Belongs to France.
16. Malay States.
17. Straits Settlements—Belong to British Empire.
18. Korea—Belongs to Japan.
19. Oman.

GOVERNMENT.

Principalities.

Nepal and Bhutan.

Monarchies.

All other independent countries.

RELIGION.

1. Brahmanism—India.
2. Buddhism—Central and eastern Asia—Japan, Siam, India, China.
3. Mohammedanism — Southwestern Asia; Turkey, India, Persia, Afghanistan, Baluchistan, Arabia.
4. Christianity—Turkish Empire, Siberia.
5. Judaism—Asia Minor.
6. Shinotoism—Japan.

JAPANESE EMPIRE

"The Flowery Kingdom," "Sunrise Kingdom."

It is composed of over 3,800 islands

and extends from northeast to southwest over 2,000 miles.

Controls Korea.

LOCATION.

East of Asia.

Latitude—about 21-50 degrees north.

Longtitude—about 120-159 degrees east.

Surrounding Countries—Siberia and China.

Surrounding Waters—Pacific Ocean, East China Sea, Japan Sea, Okhotsk Sea, Korea Strait, Formosa Channel, Saugar Strait, La Perouse Strait

SIZE.

Three times as large as New York State.

SHAPE.

Islands mostly long and narrow.

COAST LINE.

Long and irregular. Good harbors.

SURFACE.

Mountainous—Islands largely of volcanic origin.

DRAINAGE.

Many very short rivers; rivers of little use for navigation but very important in irrigation and manufacturing.

CLIMATE.

Almost every climate known to man is found on these islands.

Snow lies in north until May.

Copious rains fall in the south during summer monsoon.

Lies in belt of westerly winds; therefore much rain falls on west side.

Western climate bracing and healthful.

Eastern climate damp and enervating.

Bright, sunny days are the rule in the central islands.

INDUSTRIES.

Agriculture—Leading industry; the great mass of the people employed in tilling the soil on small farms. Farms average two acres in size.

Fishing—Common along coast.

Silk Culture — Second country in world.

Manufacturing—Rapidly growing indutsry.

Commerce—Carried on principally with Great Britain, United States, China, India, France, and Germany.

Mining—not important.

PRODUCTS.

Grains, tea, rice, vegetables, mulberry trees, cotton, tobacco and bamboo.

Manufactured Products—Silk, brocade, velvet, crape, cotton cloth, matting, and lacquer.

Mineral Products—Coal and sulphur.

EXPORTS TO UNITED STATES.

Raw Silks	Mats
Tea	China
Silk goods	Camphor

Approximate value $55,000,000 per year.

IMPORTS FROM UNITED STATES.

Raw cotton	Iron and steel
Leather	Oil
Breadstuffs	Provisions

Approximate value $40,000,000 per year.

CITIES.

1. Tokio—1/3 times New York City.
   Eastern part of Hondo on Bay of Yeddo.
   Sixth largest city in the world.
   Capital and chief commercial center.
2. Yokohama—1/20 times New York City.
   Eastern part of Hondo on Bay of Tokio.
   Chief seaport of Japan.

GOVERNMENT.

Limited monarchy. Emperor rules through cabinet and parliament. Par-

liament composed of two houses: upper, nobility; lower, chosen by people. Leading Eastern nation. Government very strong.

RELIGION.

Shintoism—Old religion of the country.

Buddhism—Many of natives.

All religions are tolerated.

EDUCATION.

Educational system based on American system.

Most Japanese can read and write.

Public schools in all parts of the kingdom.

Several public universities.

PEOPLE.

Called the Frenchmen of the Orient.

They belong to the Mongolian race.

They are polite, cheerful, impassive, kind, courageous and progressive.

Men considered honorable in the following order: Soldiers, farmers, artisans, merchants.

There are about six times as many people as in New York State.

CHINESE EMPIRE

The most populous empire in the world.

LOCATION.

East central part of Asia.

Latitude about 19-52 degrees north latitude, about same latitude as United States and Mexico.

Longitude about 15-132 degrees east longitude.

Surrounding countries — Siberia, Aurkestan, India, Nepal, Bhutan, French Indo-China, Korea, Japan.

Surrounding waters—Yellow Sea, East China Sea, South China Sea.

SIZE.

84 times as large as New York State.

About 1 1/6 times as large as United States.

Occupies 1/4 of Asia.

SHAPE.

Roughly rectangular in shape.

COAST LINE.

Nearly 5,000 miles long. Many inlets and boardering seas, all favorable to commerce. Many excellent harbors.

SURFACE.

Resembles United States. Lofty mountains in west. Dry interior plateau. Range of miuntains on the east.

A great plain stretches through central China as does the Mississippi plain in United States, only the Chinese plain slopes to the east. It is one of the richest plains in the world.

DRAINAGE.

Three main rivers run from west to east and many smaller streams run southeast.

Rivers have brought vast quantities of rich soil down to flood plains, thus enabling country to support dense population.

Used for traffic and travel.

Yangtze River is most important; Hoangho next.

CLIMATE.

Mainly in north temperate zone.

Tibit—extreme heat and cold combined with excessive dryness.

China proper—winds of Pacific bring moisture and warmth.

Northern part—dry climate, long severe winters and short, hot summers.

INDUSTRIES.

Agriculture—Chief industry. Chinese make good farmers. Farming held in high esteem. Irrigation extensively used.

Fishing—more than 30,000,000 people engaged in fishing.

Manufacturing—much hand manufacturing. Skilful workmen.

Mining—much mineral wealth but little mining. Chinese dislike underground work.

Commerce — domestic commerce larger than that of any other country. Carried on with help of rivers. Foreign trade growing.

Grazing—on mountain slopes.

PRODUCTS.

Products of the soil: Wheat, millet, and cotton in nothern part; rice, tea, sugar, opium and millet in southern part; mulberry tree and bamboo,ginsing, beans, indigo.

Stock—horses, goats, wool, hides, and skins.

Mineral products—coal.

Manufactured products—cotton cloth, silks, silk brocades, porcelain and straw-braid.

EXPORTS.

Silk, tea, cotton, beans, hides, skins, straw-braid and paper.

IMPORTS.

Cottons, opium, oil, sugar, coal, rice, woolens, boots and shoes.

IMPORTANT CITIES.

1. Pekin—1/3 as large as New York City; northeastern part inland; capital; name means "Northern City;" very dirty; has few improvements; two parts. (1) Tartar City, which is seat of government and home of emperor, and (2) Chinese City where business is transacted.

2. Hongkong—1/19 as large as New York City; southeastern part of China on island at mouth of Pearl River; belongs to British Empire; most important city; has a vessel tonnage larger per year than London; ranks as Britain's third strongest fortress.

3. Canton—5/8 large as New York City; largest city in China; southeastern part on Pearl River; 300,000 people live on boats.

GOVERNMENT.

Limited monarchy in the process of change from absolute monarchy; parliament has been granted; people demanding and obtaining more liberties year by year; republic demanded in 1911.

RELIGION.

Buddhism—chief religion.

EDUCATION.

Based on the writings of Confucius. This system is undergoing a great change and modern educational standards are being introduced.

PEOPLE.

Belong to Mongolian race. Nobility largely from Tartar race; peasants descended from original Chinese.

Natural tradesmen, generally temperate and happy.

Worship of ancestors. Customs differ throughout the empire, and many changes are resulting from the recent revolution.

About five times as many people as in United States.

INDIA OR HINDUSTAN

LOCATION.

Southern part of Asia.

Latitude—about 8-37 degrees north latitude.

Longitude—about 67-100 degrees east longitude.

Surrounding countries — China, French, Indo-China, Siam, Baluchistan, Afghanistan, Turkestan, Nepal, and Bhutan.

Surrounding waters—Bay of Bengal, Indian Ocean and Grabian Sea.

SIZE.

30 times as large as New York State. About 2/5 times as large as United States.

COAST LINE.

Very regular; few good harbors.

SHAPE.

Triangular in shape.

SURFACE.

Tablelands and very high mountains in northwest, north, and northeast. Peninsula portion is a plateau. A nar-

row coastal plain surrounds the plateau. The plateau is separated from the mountains in the north by the great plains of the Indus and Ganges.

DRAINAGE.

1. Indus River.

2. Ganges River—sacred river of the Hindus.

These rivers bring fertile soil down from the mountains and spread it over the valleys.

CLIMATE.

Influenced by latitude, altitude, nearness to desert and sea, and protection afforded by mountains of the north.

Mostly tropical.

3 seasons—hot, rainy and cold.

INDUSTRIES.

Agriculture—9/10 of the people engaged in farming. Irrigation used.

Manufacturing—modern machinery gradualy taking place of hand work.

Mining—rich mineral wealth is not developed because of poor quality of coal.

Commerce—very extensive; 1/2 with Great Britain; 1/12 with United States.

PRODUCTS.

1. Products of the soil.

Rice—on deltas and coast strips.

Millet—inland.

Wheat and cotton—Indus valley.

Oil, seeds, coffee, tea, and indigo—southern part.

2. Mineral products: Iron, copper, coal and gold.

3. Manufactured articles: Silks, brocades, shawls, rugs, and carpets; cotton goods in Bombay; jute from Calcutta.

EXPORTS.

Cereals, rice, tea, coffee, cotton, wool, opium, lac, oil seeds, indigo.

IMPORTS.

Cotton goods, hardware, sugar, woolens, silk, oil, machinery, provisions, and chemicals.

IMPORTANT CITIES.

1. Calcutta—"City of Palaces," 1/4 times as large as New York City. Northeast part of India on the Hugli River in the Ganges Delta.

Largest white population of any city in India.

Beautiful park.

2. Delhi, the capital of the ancient Mogul sovereignty, was made capital of India in December, 1911.

Noted for trade in jewelry and cotton goods.

3. Bombay—1/5 as large as New York City. West of India on an island in the Arabian Sea.

Chief commercial city of India.

Has one of the best harbors in the world.

Prosperity due to enterprising English population and Suez Canal.

4. Madras—1/8 times as large as New York City.

Third port of importance.

Southeastern part.

Has artificial harbor; poor place for ships.

GOVERNMENT.

Belongs to British Empire.

King of Great Britain is Emperor of India.

Actual government in hands of Viceroy.

Native princes rule in native states under British supervision.

RELIGION.

Brahamism—1/2 of the people.

Buddhism—few of the natives.

Mohammedanism—more Mohammedans in India than in Turkey.

Christianity—Europeans.

EDUCATION.

Not compulsory. Ignorance and superstition still prevail.

English have established village and secondary schools; also five universities.

PEOPLE.

Two great families.

1. Hindus—northern plains; tall, fair, strong and manly.

2. Dravidians—Plateau of Deccan and south; straight, dark-skinned, and timid.

27 times as many people as New York State.

3 1/3 as many people as in United States.

People very superstitious.

Women marry at from ten to thirteen years of age.

Most of the people live in small cane or unburnt brick huts. They have no chairs or tables; mats serve for chairs and the floor for a table. The fingers take the place of spoons and forks in eating.

PERSIA

"The Land of Oriental Rugs."

LOCATION.

Southwestern part of Asia.

Latitude—about 25-39 degrees north latitude.

Longitude—about 45-63 degrees east longitude.

Surrounding countries—Turkey, Caucasia, Turkistan, Afghanistan, and Baluchistan.

Surrounding waters—Caspian Sea, Persian Gulf, Strait of Ormus, Gulf of Oman.

SIZE.

12 1/2 times as large as New York State.

SURFACE.

Tableland or plateau 3/4 mile above sea level, surrounded by a rim of mountains.

CLIMATE.

Very dry except in mountains where some rain and snow fall in winter.

Southern part very hot; central part more moderate; northern part most delightful.

DRAINAGE.

Few rivers or lakes, due to lack of rain. People depend on wells for irrigating farms.

INDUSTRIES.

Agriculture—most important.

Sheep raising and herding—on mountain slopes.

Manufacturing—hand work.

Pearl fishing—in Persian Gulf.

PRODUCTS.

Products of the soil are wheat, barley, millet, maize, cotton, tobacco, opium, grapes, peaches, oranges, dates, and lemons.

Sheep raising and herding products are wool, horse and hides.

Manufactured products are carpets, rugs, and silk brocades.

Pearls—in the south.

EXPORTS.

Mainly to Europe.

Fruit, cotton, wool, opium, carpets, silk, hides, rice, and pearls.

IMPORTS.

Cotton goods, sugar, tea, woolens, metal goods, and hardware.

IMPORTANT CITIES.

Teheran—1/16 times as large as New York City; capital; Palace of Shah is a city in itself.

Northern part of Persia.

GOVERNMENT.

Limited monarchy; people have recently gained a voice in the government.

Ruler is called the Shah.

Government influenced by Russia.

RELIGION.

Mohammedanism—nearly all the people.

EDUCATION.

Poor facilities for education.

Few schools and these teach only reading, writing and arithmetic.
A university at Teheran.
No schools for girls.

PEOPLE.

Not highly civilized.
Women looked down upon.
Naturally polite and courteous.
Fluent in conversation.

TURKISH EMPIRE

LOCATION.

Southwestern part of Asia.
Latitude—about 12-41 degrees north latitude.
Longitude—about 26-50 degrees east longitude.
Oman and Arabia.
Surrounding waters—Red Sea, Persian Gulf, Mediterranean Sea, Bosphorous, Sea of Marmora, Dardanelles, Black Sea, and Caspian Sea.

SIZE.

13 times as large as New York State.

SHAPE.

Very irregular.

SURFACE.

Largely a tableland over 3,000 feet high.
Only important plain is the Tigris-Euphrates valley; known as Mesopotannia.

DRAINAGE.

Euphrates River, Tigris River.

CLIMATE.

Rainfall scanty except on hill slopes facing the sea.
Air dry and clear; therefore the annual range of temperature is great.

INDUSTRIES.

Agriculture—carried on mainly in irrigated regions and along river-valleys.
Herding—on mountains and hill slopes.
Manufacturing—very little.
Commerce—inland trade carried on by caravan.

PRODUCTS.

Products of the soil are tobacco, cereals, cotton, fruit, grapes, olives, opium, and oil of roses.
Products from the herd are hides and wool.
Manufactured products are carpets, silk.

EXPORTS.

Grapes, silk, mohair, opium, hides, barley, coffee, cotton, figs, carpets, and wool.

IMPORTS.

Sugar, cotton goods, flour, rice, woollens, coffee, and wheat.

IMPORTANT CITIES.

1. Jerusalem—western part of Syria.
1/100 as large as New York City.
Called the "Holy City."
Stands on three hills.
Present city built on ruins of twenty former Jerusalems.
The streets of biblical times lie buried 30 to 80 ft. below present streets.
2. Mecca—western part of Peninsula of Arabia
1/60 times as large as New York City.
Birthplace of Mohammed.
Pilgrims travel there by the thousands.

GOVERNMENT.

Limited monarchy.
Ruler called the Sultan.
People gradually obtaining more voice in law making.

RELIGION.

Mohammedanism—most important.
Judaism—mainly in "Holy Land."
Christianity—Armenia mainly.

EDUCATION.

Backward.

PEOPLE.

Many races.

1. Turks—in Asia Minor and Syria.

2. Greeks—the professional people.

3. Armenians and Jews—the principal merchants.

4. Arabs—in Mesopotama and Arabia.

2½ times as many people as in New York State.

SIBERIA

LOCATION.

Northern part of Asia.

Latitude—about 50-78 degrees north latitude.

Longitude—about 60 degrees east longitude to 170 degrees west longitude.

Surrounding countries—Russia, Japan, China and Turkestan.

Surrounding waters—Artic Ocean, Bering Strait, Bering Sea, Okhotsk Sea, Pacific Ocean, Japan Sea.

SIZE.

98 times as large as New York State.

1 1/3 times as large as United States.

SHAPE.

Roughly rectangular; longest from east to west.

SURFACE.

Southern part level and fertile, contains many lakes and marshes.

North and northeast of the Yenisei River, the land is rolling.

North of the southern fertile region is the forest belt.

North of this are the frozen tundras.

DRAINAGE.

Yenisei River.

Ob River.

Lena River.

Amur River.

Many smaller rivers.

Because of frozen ground all drainage is on the surface.

CLIMATE.

Winters are long, cold and dry; severity increases from west to northeast.

Summers are short, hot, and moist.

Western Siberia has climate similar to northwestern Canada.

INDUSTRIES.

Agriculture—southern part mainly; carried on as far north as 62 degrees north latitlde.

Foresting—central part.

Trapping—central and northern parts.

Mining—along the rivers.

Herding—southwestern part.

Commerce—Siberia unfavorably situated for trade; most trade carried on with Russia.

PRODUCTS.

Products of the soil are wheat, rye, and oats.

Furs of all kind. Supply diminishing.

Ivory from the tusks of buried mammoth—only product of tundras.

Mineral products are gold, silver, coal, iron, lead and cooper.

Horses and cattle.

EXPORTS.

Grains and furs.

IMPORTANT CITIES.

1. Irkutsk—southern part; largest city.

1/100 times as large as New York City.

2. Vladivostok—southeastern part on Japan Sea; chief port.

GOVERNMENT.

Belongs to and governed by Russia.

PEOPLE.

1. Russians—3 classes; merchants, Russian exiles, Russian emigrants.

Natives—Mongolian race; Kighis, Tartars, and Cossacks.

Cossacks form the principal part of Russian cavalry.

7/8 as many people as in New York State.

STEAMSHIP LINES FROM NEW YORK TO ASIA.

LEVANT LINE (Hamburg American) to Smyrna; a freight line; flies German flag.

PRINCE LINE to China and Japan; carries freight and passengers; flies British flag.

UNITED STATES and CHINA-JAPAN LINE to Aden, Singapore, Hong kong, Shanghai, Kobe, and Yokohama; a freight line.

Most of the commerce carried on between United States and Asia goes through our Pacific ports. Freight and passengers go by rail to the Pacific ports and thence by ship to Asia.

Principal Routes.

ROUTE I. New York to Chicago via New York Central, Pennsylvania, Erie or other local railroads. Chicago to Seattle via Northern Pacific railroad. Seattle to Asiatic ports via steamship.

1. Great Northern Steamship Co. for Japan, China, Philippines, Straits Settlements and other Asiatic ports.

2. Japan Mail Steamship Co. for Japan, China and Oriental ports.

ROUTE II. New York to Washington via Baltimore and Ohio or Pennsylvania railroad. Washington to San Francisco via Southern Pacific railroad. San Francisco to Asiatic ports via steamship.

1. Pacific Mail Steamship Co. for Japan, China, Philippines and India.

2. Oriental Steamship Co. for Japan, China, Phillipines and India.

ROUTE III. New York to Chicago. (See Route I). Chicago to San Francisco via Santa Fe railroad. Or Chicago to San Francisco via Union Pacific and Southern Pacific railroads. San Francisco to Asiatic ports via steamship. (See Route II).

Most direct route from European ports is via Mediterranean Sea, Suez Canal, Red Sea, Strait of Bab el Mandeb, Gulf of Aden, and thence to various Asiatic ports.

CITIES OF ASIA.

Name	Size N.Y.C.	Location	Noted
Jerusalem	1/100	Western pt. of Syria, Turkey.	Holy City.
Mecca	1/60	Western pt. of Arabia, Turkey.	Birth place of Mohammed.
Teheran	1/16	Northern part of Persia.	Capital.
Bombay	1/5	West of India on island.	Chief commercial city.
Madras	1/8	S. E. part of India.	3rd port of importance.
Calcutta	1/4	N. E. part of India, on Ganges.	Largest city.
Pekin	1/3	N. E. part of China.	Capital.
Hongkong	1/19	S. E. on island. Pearl River.	Chief port. Belongs to Gt. B.
Canton	5/8	S. E. on Pearl River	Largest city.
Tokio	1/3	E. pt. of Hondo. Bay of Yeddo.	Capital; commerce.
Yokohama	1/20	E. part of Hondo.	Chief seaport.

COUNTRIES OF ASIA.

Name	Size N.Y.C.	Capital	Chief Industry
Siberia	120		Agriculture.
Turkish Emp.	13	Constantinople	Agriculture.
Persia	12½	Teheran	Agriculture.
India	80	Calcutta	Agriculture.
China	64	Pekin	Agriculture.
Japan	8	Tokio	Agriculture.

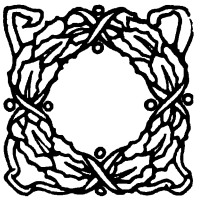
GOVERNMENT AND RULERS OF ASIA.

Country	Form of Government	Rulers
Turkish Empire.	Limited Monarchy.	Sultan Mohammed V..
Persia	Limited Monarchy.	Shah Ahmed Mirza.
India	Belongs to British Empire.	Viceroy Lord Penshurst.
China	Limited Monarchy.	Hsuan-t'ung.
Japan	Limited Monarchy.	Emperor Mutsuhito.
Afghanistan	Absolute Monarchy.	Amên Habibullah Kahn.
Siam	Absolute Monarchy.	Maha Vajiravudh
Oman	Absolute Monarchy.	Sultan Feysil bin Turki.

REVIEW QUESTIONS ON ASIA.

1. Bound Asia.
2. Locate Asia in regard to hemispheres.
3. Locate Asia according to zones.
4. Describe the surface of Asia.
5. Name and locate two mountain ranges of Asia.
6. Name the highest mountain peak of Asia.
7. What and where is the "Roof of the World"?
8. Where is the most populous part of Asia?
9. Describe the Euphrates River.
10. Describe the Yangtze River.
11. Locate the following: Bering Sea, Yellow Sea, Bay of Bengal, East China Sea, Japan Sea.
12. Name and locate five lakes of Asia.
13. Locate the following: Red Sea, Arabian Sea, Gulf of Siam, Strait of Malakka, Strait of Bab el Mandeb.
14. Locate: Ceylon, Sokotra, Sakhalin, Maldive Islands, New Siberian Islands.
15. Name and locate five peninsulas of Asia.
16. Name the heat belts in which Asia lies.
17. What causes the monsoon?
18. Where is the "cold pole"?
19. Compare the climate of western Asia with that of western Europe.
20. Describe the climate of northern Asia.
21. Describe the climate of southern Asia.
22. Compare the plateau of Gobi with the great basin in North America.
23. Describe the vegetation of southern Asia.
24. Name five mineral products of Asia.
25. Why are the mineral resources of Asia not developed?
26. Name five wild animals of Asia.
27. Name and locate three great races of people in Asia.
28. What is the most important industry of the people of Asia?
29. What is the largest country of Asia?
30. In what part of Asia do we find the Mohammedans?
31. In what countries do we find the Buddhists?
32. What country is called the "Flowery Kingdom"?
33. Why is Japan sometimes called the "Sunrise Kingdom"?
34. Name five articles exported from Japan to United States.
35. Name five articles imported into Japan from the United States.
36. Why are the Japanese called the "Frenchmen of the Orient"?
37. Locate the capital of Japan.
38. Compare the size of the capital of Japan with that of New York City.
39. Describe the government of Japan.
40. Compare the surface of China with that of United States.
41. Why are the rivers of China so important to the people?
42. Name five occupations of the people of China.

43. Locate the largest city of China.
44. What important seaport of China belongs to British Empire?
45. To what great race do the people of China and Japan belong?
46. To what country does India belong?
47. Describe the climate of India.
49. Locate: Calcutta, Madras, Bombay, Pekin, Yokohama.
50. Describe the natives of India.
51. Where is the "Land of Oriental Rugs"?
52. Where is the "Holy Land"?
53. For what is Mecca noted?
54. Why are the great rivers of northern Asia comparatively unimportant?
55. Describe an all water route from New York to Hongkong.
56. If you were going from New York to Tokio what would be the quickest route to travel?
57. Name two countries of Asia that belong to Russia.
58. Describe a water route from Yokohama to the Suez Canal.
59. Name form of government of Japan, China, India, Persia, and Turkey.
60. Describe the people of Siberia.



Elementary Science

For 8A in New York City

By MERTON A. BROWN,

P. S. 136 Brooklyn, N. Y.

SOUND

NOTE.—This article on ELEMENTARY SCIENCE is the fourth in the series by Mr. Brown. The work required in 7A, 7B, 8A and 8B in New York City has been covered. Inquiries about these articles are answered here:

7A work is reprinted in pamphlet form at 15 cents a copy, or 10 cents a copy when six or more copies are ordered.

7B work was printed in the December issue of the McEVOY MAGAZINE, 1911. That issue is Vol. IV, No. 2. Price, 25 cents.

8A work in this issue will not be reprinted in pamphlet form. Price of this issue, 30 cents.

8B work was printed in the McEVOY MAGAZINE for March and April, 1911. Price of those two issues, 25 cents.—*Editor.*

Experiment I, A.

Apparatus. A sonometer (a board with upright pieces at the ends, over which a violin string or rubber band is stretched).

Object. To determine the cause of sound.

Observation. Note that when the string is at rest there is no sound. Pick or bow the string. The string vibrates and a sound is heard. When the string is again at rest, no sound is heard.

Inference. Rapid vibration of a body is the cause of sound.

Experiment I, B.

Apparatus. Tuning fork, a button suspended by a thread, glass of water.

Object. Same as in A.

Observation. Hold the fork by the stem and stand it on the desk. No sound is heard. Touch the prongs to the button. The button is not disturbed. Touch prongs to the surface of the water. The water is not disturbed except to admit the fork.. Strike the prongs and touch the stem to the desk, or hold it to the ear. A sound is heard. Touch the button with the prongs. The button is set in motion. Bring the prongs in contact with the surface of the water. The water is dashed into a spray.

Inference. Same as A.

Experiment I, C.

Apparatus. A strip of paper about three inches by one inch.

Object. Same as in A.

Observation. Lay the paper on the desk, holding it firmly at one end. The paper is at rest and no sound is heard. Blow violently on the side of the strip. The paper vibrates and a sound is heard.

Inference. Same as in A.

Experiment I, D.

Apparatus. Thin tumbler, button suspended by a thread, violin bow.

Object. Same as in A.

Observation. Place the tumbler so

that the rim just touches the suspended button. The button is at rest; no sound is heard. Draw the resined bow across the rim of the tumbler. The tumbler emits a sound and the button bounces away from the tumbler.

Inference. Same as in A.

Experiment I, E.

Apparatus. Tuning fork, window glass with surface smoked by passing through flame of a candle.

Object. Same as in A.

Apparatus. Fasten a fine wire or bristle to the prong of the tuning fork. Draw the bristle across the smoked glass. The bristle describes an even line; no sound is heard. Sound the tuning fork, as in B and draw across the glass. The bristle describes an undulating line.

Inference. Same as in A.

Illustrations. (a) All string instruments; (b) music boxes; (c) all reed instruments, as the organ, clarinet, etc.; (d) bells, horns, etc.; (e) manufacture of phonographic records.

Sound is the sensation excited in the organ of hearing by the rapid motion of bodies when this motion is transmitted to the ear through an elastic medium.

A medium is that which is capable of transmitting the vibratory motion of a body to the ear.

TRANSMISSION OF SOUND.

Experiment II.

Apparatus. Air pump, electric bell connected with a small battery.

Object. To determine if a medium is necessary for the transmission of sound from the sounding body.

Observation. Place the bell and battery under the receiver of the air pump. Let the bell rest on wadding. The ringing bell is distinctly heard. Exhaust the air. As the air is exhausted, the sound becomes more and more feeble. Admit air and the sound is again distinctly heard.

If the school is not equipped with an air pump, the experiment may be performed as follows: Through a rubber cork push a wire, at the end of which is attached a small bell. Insert the cork in a flask with the bell end of the wire inside. Shake the flask. The bell is distinctly heard. Fill the flask about 1/3 full of water and boil for a few minutes with the cork removed, driving most of the air out. Replace the cork and bell as before. Again shake the flask. The sound from the bell is very feeble.

Inference. A medium is necessary for the transmission of sound.

Sound is transmitted in all directions from the sounding body.

The advancing wave motions of the medium produce a series of concentric circles in all directions about a sounding body similar to those produced in standing water when a stone is thrown into it.

Experiment III.

Apparatus. Small wooden box open at one end; several solids, as, iron, wood, etc.; glass of water; tuning fork.

Object. To determine the best sound medium, or conductor of sound.

Observation. Strike the tuning fork and stand the stem on the box. A sound is heard. Place in turn the wood, iron, etc., between the stem of the sounding fork and the box. In each case, the sound is heard distinctly. Place the glass of water between the sounding fork and the box. (Fasten small wooden block to the stem of the fork.) A feeble sound is heard. Strike the fork and hold it in the air. No sound is heard except when the fork is near the ear.

Inference. Solids are the best conductors of sound.

Solids, liquids and gases all transmit sound, but with different degrees of intensity and velocity. A blow struck on an iron pipe may be heard at the other end as two distinct sounds, one through the iron, and one through the air.

Sound may pass through or around solids.

Illustrations: *Solids.* A pin scratch one one end of a window pole may be heard at the other end; a watch held in the mouth by the steam may be heard even with the ears covered; the humming of telephone wires is heard when the ear is near a telephone pole; the Indians detected the approach of horses by putting the ear to the ground; the string telephone made by a wire or cord fastened to the bottom of two tin cans and stretched tightly.

Illustrations: *Liquids.* Divers in water hear sounds produced on the shore, or stones struck together under water.

Illustrations: *Gases.* Nearly all sounds reach the ear through the air.

VELOCITY OF SOUND.

Sound travels 1090 feet per second in the air at the freezing point, 32° F. The distance of a lightning flash may be roughly estimated by noting the number of seconds between the flash and the thunder, and then multiplying that number by 1100, the resulting product being in feet. The distance in miles may be considered approximately one-fifth the number of seconds.

INTENSITY OF SOUND.

Intensity is the force or strength of sound.

Experiment IV.

Apparatus. A sonometer.

Object. To determine the cause of the difference in the intensity of sound.

Observation. Pick the string gently. A feeble sound is produced and the string vibrates through a narrow space (the spindle). Pick the string violently. A louder sound is produced and the spindle is wider.

Inference. The greater the width (amplitude) of the spindle, the louder the sound; the narrower the spindle, the weaker the sound.

The intensity is affected by the distance from the sounding body, density of the air, motion of the atmosphere, direction of the wind, intervening solids.

The intensity of sound is increased by the nearness of sonorous bodies; as, the body of a violin, mandolin ,etc. The body and string vibrate in unison, reinforcing the sound. See reflection of sound.

REFLECTION AND REINFORCEMENT OF SOUND.

Experiment V.

Apparatus. Large cone made by rolling a stiff paper and fastening with paper fasteners (a megaphone).

Object. To show the effect of a megaphone on sound.

Observation. Hold a watch in the air. The ticking can be heard only a short distance from the watch. Hold the watch in the speaking end of the megaphone. Turn the large end of the megaphone toward the class, pointing it at each pupil in turn. The ticking is heard by those toward whom the megaphone is pointed.

Inference. The megaphone increases the intensity of sound, or reinforces it.

Explanation. The megaphone prevents the sound from spreading in all directions, but collects the sound waves and sends them out in one direction.

Illustrations. The megaphone, bells. ing board.

Each pupil may roll a paper into a cone and place the small end in the ear. A roaring sound is heard. The same result is produced when both hands are closed about the ear. Many sounds seem to be collected and intermingled as they are reflected from side to side of the cone or the hands. Note the sound of the voice when the tube and the hands are in position as above. The voice seems louder. The intensity is increased.

Illustration. Sea shells, the roaring sound heard when holding the ear over the open end of a barrel, the echoes heard in a tunnel, speaking tubes, and ear trumpets.

An echo is a sound repeated by reflection so as to be heard again at its source. The sound may be reflected both from solids and from liquids. Sound over water is easily transmitted great distances, because it is frequently reflected from its surface and does not present the interference which is presented by the uneven surface of the land.

An echo cannot be produced from a reflecting surface less than 55 feet distant from the source of the sound. An echo heard five seconds from the time the sound is produced will travel approximately 5500 feet. As the sound traverses the distance to the reflecting surface and back to its source, the reflecting body is about 2750 feet from the source of the sound.

In the famous "whispering galleries" in various parts of the world, the faintest whisper at one end of the gallery may be distinctly heard at the other end. This is due to the repeated reflection of the sound from the curved surfaces of the galleries. Here the sound is not reflected to its source but forward in the general direction of the curved surface.

PITCH.

Pitch is that characteristic of sound by which it is recognized as high or low.

Experiment VI.

Apparatus. Comb or book, a hat pin or toothpick.

Object. To determine the cause of the difference in pitch.

Observaaion. Scrape slowly the pin or pick over the rough surface of the book cover or teeth of the comb. A dull or low sound is heard. Repeat, scraping rapidly. A higher sound is heard.

Inference. A difference in the rapidity of vibration causes a difference in pitch. The faster the vibration the higher the pitch; the slower the vibration, the slower the pitch.

Note. Care must be taken here that the pupil does not confuse high pitch with loud sound and low pitch with soft sound. The cause of the difference in pitch may be shown with a bicycle wheel and a strip of stiff paper. Turn the bicycle upside down and revolve one wheel slowly, holding the stiff paper so that the end touches the spokes of the wheel. A low sound is heard. Repeat, rotating the wheel rapidly. A high sound is heard.

Experiment VII.

A. Apparatus. Sonometer, violin bow.

Object. To find a method of producing fast vibration (high pitch) on a string instrument.

Observation. Bow or pick the string and while the string vibrates, tighten it (increase tension). As the tension increases, the pitch becomes higher.

B. While the string is in vibration thrust a ruler under it so that the vibration portion of the string is shorter. A higher pitch is produced.

Inference. To produce fast vibration on a string instrument, tighten or shorten the string. The tighter or shorter the string, the higher the pitch.

All string instruments are constructed of different lengths and tensions, or are arranged so that the length or tension of the strings may be varied at will.

Illustrations. Violin, banjo, piano, etc.

The interior construction of the school piano will be of interest to the pupils and a practical illustration in connection with the study of pitch.

Metal strings give a higher pitch than the ordinary string of the same length and thickness. A string of small diameter gives a higher pitch than one of a larger diameter.

The Vocal Organs.

The larynx is the true organ of vocal sound. It consists of a chamber whose walls are composed of cartilage and muscle. These muscles are connected with two elastic membranes with broad

bases and thin edges. The membranes are the vocal cords. According to the action of the muscles, the vocal membranes are brought close together or farther apart, thus varying the resistance to the passage of the air as it is forced through the larynx from the trachea, or wind pipe, below. The action of these muscles also controls the tension and thickness of the vocal cords and so varies the character of the vibrations of the vocal membranes at will. The sounds thus produced are further modified by the tongue, mouth and parts of the organs of respiration, making possible the wonderful effects of the human voice.

Experiment VIII.

Apparatus. Tall glass cylinder, water.

Object. To determine a method of producing fast vibration (high pitch) on wind instruments.

Observation. Slowly pour water into tall glass cylinder. As the cylinder is filled the air column from the water to the top of the cylinder is shortened. A higher pitch is produced by the falling water.

Inference. To produce fast vibration or high pitch on wind instruments, shorten the air column. The smaller the diameter of the air column, the higher the pitch. The pitch is made higher also by using thin material in the construction of the walls of the air column. Metal produces a higher pitch than other materials.

Illustrations. Pipe organ, trombone, clarinet, flute, etc. In the organ, there are pipers of different lengths and diameters. In other instruments, as the flute, the length of the air column is regulated by opening and closing holes in the sides of the instruments.

The Ear.

The organ of hearing consists of three parts: the outer ear, the middle ear, and the inner ear. The outer ear consists of a fold of cartilage so arranged as to turn the sound into a tube about one inch in length. The middle ear consists of a membrane, the ear drum, stretched across the passage of the outer ear. The essential part of the middle ear is a chain of small bones which chain is fastened at one end to the ear drum and at the other end to a similar membrane which closes the entrance to the inner ear. The inner ear consists of a small winding chamber hollowed out in the bone. This chamber is lined with a membrane in which are numerous branches of the auditory nerve. The chamber is filled with a clear liquid carrying minute granules.

When wave motions of the air pass to the ear drum, the drum is set in motion. The motion is communicated by the chain of small bones to the membrane of the inner ear. Here the motion is communicated to the liquid of the inner ear, which in turn excites the auditory nerve fiber by means of the motion of the granules. The auditory nerves communicate with the brain and the sensation of hearing is produced.

HEAT

Heat is a form of energy into which all other forms of energy are convertible. It consists of the agitation of the molecules of matter and is generally recognized by the sensation of warmth to which it gives rise.—*Avery's School Physics.*

The more violent the agitation of the molecules, the greater the degree of heat produced.

Temperature.

The temperature of a body is its state considered with reference to its ability to communicate heat to other bodies. A body is warm if it communicates heat to us; and cold, if it takes heat from us. Heat flows from a point of high temperature to a point of low temperature just as water flows from a point of high level to one of a lower level.—*Avery's School Physics.*

Sources of Heat.

The sources of heat may be distinguished as mechanical, physical and

chemical. The mechanical sources are friction, percussion, pressure or compression; the physical sources are solar radiation, heat of the earth, electricity; the chemical sources are molecular combination and combustion, which is a form of chemical combination.

Experiment IX.

Apparatus. The hands.

Object. To determine a source of heat.

Observation. Touch the hands to the cheeks and note if the hands feel warm. Rub the hands together briskly and again touch them to the cheeks. They seem much warmer than before.

Inference. Friction is a source of heat.

Illustrations. The friction match; a filed nail becomes hot in the process; lighting fire by means of flint and tinders; a saw is heated when sawing a board; a rope drawn quickly through the hands will raise a blister; an axle becomes heated when left unoiled; sparks fly from horse shoes when a horse slips on the pavement. In this case small particles of steel are worn off and become heated by friction as they pass into the air.

Experiment X.

Apparatus. Hammer and nail.

Object. To determine another source of heat.

Apparatus. Feel the nail and note if it feels warm. Hammer the nail. The nail becomes very hot.

Inference. Percussion is another source of heat. Concussion is also a term applied but is generally used in connection with explosives.

Illustrations. Percussion caps for exploding charges of powder, as in a rifle, toy pistol, etc.; toy torpedoes. Dynamite is usually exploded by percussion.

Experiment XI.

Apparatus. A bicycle pump.

Object. To determine another source of heat.

Observation. Work a bicycle pump vigorously for a few minutes. Quickly run the hand over the barrel of the pump. The pump will be warm the whole length of the barrel, but warmer at the bottom than elsewhere.

Inference. Compression or pressure is another source. A given quantity of matter possesses a certain amount of heat. When the matter is made to occupy a smaller space, the quantity of heat per unit space is increased and the temperature is raised.

In this experiment a volume of air was compressed and the temperature raised. The heat was communicated to the containing barrel of metal and was greater at the bottom where the compression was greatest. Not all the heat was derived from compression; some was produced by friction.

Illustrations. Heat produced in compressed air chambers; the packing of a snow ball from dry snow concentrates enough heat, with that drawn from the hands, to produce a partial melting of the snow so that the particles cling together; a weight suspended from a wire around a piece of ice, which is supported at the ends above the floor, will cause the wire, in a short time, to cut its way through the ice, but the ice freezes behind the wire so that when the weight drops, the ice is again a solid piece. The pressure concentrates enough heat to melt the ice in front of the wire, but the heat is dissipated after the wire passes this point and allows the water produced to freeze again.

Experiment XII.

Apparatus. A convex lense, soft felt or cloth.

Object. To determine another source of heat.

Observation. Hold the lens in the sunlight and focus the rays on the felt. In a short time the felt will smoulder and smoke, and, perhaps, burst into flame.

Inference. Concentration of the sun's rays is another source of heat.

Illustrations. Glass sun parlors, conservatories, sun engines, rays focussed by reflection from mirrors and polished surfaces sometimes produces fire.

Experiment XIII.

Appratus. Electric bulb on the chandelier in class room.

Object. To determine another source of heat.

Observation. Feel of the bulb and note temperature. Turn on the current. Feel of the bulb. It is warmer than before.

Inference. Electricity is another source of heat.

Illustrations. Electric heaters, toasters, irons, etsc.; fires produced by a short circuit.

Experiment XIV.

Apparatus. Sulphuric acid and water test tube.

Object. To determine another source of heat.

Observation. Fill test tube one-third full of water. Note temperature of test tube and water, also the sulphuric acid by feeling of the container. Slowly and carefully pour the acid into the test tube. The liquid becomes very hot.

Inference. Chemical action is an source of heat.

Great care should be taken in this experiment. The water should never be poured into the acid. Serious burns may result.

Illustrations. Lime and water, combination of various chemicals, the heat of the body, cotton waste and oil, spontaneous combustion.

A heavy syrup and sulphuric acid will produce heat enough to reduce the mixture to powdered charcoal. The moisture disappears as a vapor.

Chemical combinations are usually accompanied by a rise in temperature. When these combinations take place slowly, the heat produced is dissipated as fast as produced; but if they take place rapidly, the disengagement of heat is intense.—*Atkinson's Physics.*

Experiment XV.

Apparatus. A candle.

Object. To determine another source of heat.

Observation. Hold hands near unlighted candle. No heat is felt. Repeat with lighted candle. Heat is felt.

Inference. Combustion is another source of heat.

Combustion is really a form of chemical action, the uniting of carbon with the oxygen of the air.

Illustrations. All burning objects. Combustion is usually attended by light, but not always.

Experiments IX-XV illustrate the methods by which heat is produced, or, as explained in the introduction, a method of agitating the molecules of a body, which, by their vibration, produce heat.

Experiment XVI.

Apparatus. A thermometer, glass of hot water, one of cold water, and one of tepid water.

Object. To determine if the body is a reliable indicator of heat.

Observation. Take temperature of the water in each glass. Note the temperature of the room. Dip one hand into the cold water and the other into the hot water. After a few seconds remove both hands to the tepid water. The tepid water feels cold to the hand that was in the hot water, and warm to the hand that was in the cold water.

Inference. The body is not a reliable indicator of heat.

Illustrations. When several persons are in a room, some may feel warm; others cold. After washing the hands in hot water, the warm furnace air from the register feels cool.

Temperature is accurately measured by an instrument called the thermometer. See THERMOMETER after experiment XVIII.

EFFECTS OF HEAT.

Experiment XVII.

Apparatus. Iron bar, a needle, straw or toothpick, Bunsen burner.

Object. To determine the effect of heat on solids, iron used as a type.

Observation. Let one end of rod rest against some stationary support, and the other end on a smooth metal or glass surface. With wax, fasten the toothpick to the eye of the needle at right angles to it. Place the nedle under the free end of the rod so as to bear the weight of the rod. Heat the bar with Bunsen burner. The bar will expand and cause the needle to roll as shown by the movement of the toothpick. Let the rod cool. The rod contracts and the toothpick pointer rests in the same position as before heating the rod.

Inference. Heat expands solids. Cobalt, cast iron, and type metal are important exceptions to this rule. They expand when cooled and contract when heated.

Illustrations. Setting metal tires on wheels; steel rollers at the ends of steel bridge beams to allow for the expansion and contraction with change of temperature; space left between rails to allow for exponsion in summer; metal thermometers; thermostadts; expansion and contraction of strings of musical instruments causing them to get "out of tune;" clock pendulums are constructed so that they may be lengthened or shortened to offset expansion and contraction; cracking of glass when heated; bulging of pavements in hot weather; telegraph wires sag more in summer than in winter. The expansion of solids may be shown as follows:

(a) Drive a large nail through a tin can. Heat the nail red hot. Try to push the nail through the hole as before. It will not enter.

(b) Push a hat pin into the edge of a cardboard and trim the card to an arrow head to be used as a pointer. Tie a short cord to the head of the hat pin and fasten cord to the desk. Loop one end of a steel wire about 12 inches long, around the pin about one inch from the cord. Fasten the other end of the wire to a support above. The hat pin and card are now arranged as a lever of the third class. Stand a ruler back of the arrow head. Heat the wire with the Bunsen burner. The pointer drops. As the wire cools; the pointer again resumes its original position.

EFFECT OF HEAT ON LIQUIDS.

Experiment XVIII.

Apparatus. A flask fitted with a rubber cork and a glass tube passing through cork.

Object. To determine the effect of heat on liquids, using water as a type.

Observation. Fill flask full of colored water. Hold in the palm of the hand or heat over Bunsen burner. The water rises in the tube and overflows.

Inference. Heat expands liquids.

Illustrations. Liquid thermometer; boiling liquids rise in or overflow their containers; hot water heating system. See Convection.

Some liquids are exceptions to this rule. Water, for instance, when its temperature is raised from 0°C. or freezing point, contracts through 4°C. and then expands with a rise in temperature. When the process is reversed, water contracts until it reaches a temperature of 4°C. and then expands correspondingly as the temperature is reduced. This explains the breaking of water pipes when water freezes. This expansion reduces the specific gravity of ice below that of water, hence ice is found at the top of water instead of the bottom. Water freezes from the top downward.

CHANGE OF THE STATE OF MATTER.

The change of the state of matter when heated is readily noted when ice is heated. The solid becomes a liquid; the liquid a gas.

THERMOMETERS (See definition after Exp. XVI).

Liquids used in thermometers are usually mercury or alcohol.

The mercurial thermometer consists of a closed capillary glass tube terminating in a bulb. The bulb and a part of the stem are filled with mercury; the remainder of the stem is a partial vacuum containing only the vapor of mercury. A small change in the volume of mercury in the bulb is readily indicated by the motion of the end of the column in the narrow tube.

There are two fixed points on a thermometer. The two points universally employed are the temperature of melting ice and the temperature of steam from boiling water under a standard pressure. The former is called the freezing point; and the latter, the boiling point. (*Carhart.*)

There are three thermometer scales in general use: Fahrenheit's, Centigrade, Reaumur's. The Reaumur scale is little used in the United States.

The Fahrenheit Thermometer.

The F. scale indicates the boiling point as 212° and the freezing point as 32°. The distance between the two points is divided into 180 equal parts, called degrees. The graduation is usually contained below 32° and above 212°.

The Centigrade Thermometer.

The C. scale indicates the boiling point as 100° and the freezing point as 0. The distance between the two points is divided into 100 equal parts called degrees. The graduation is usually continued below 0 and above 100°.

Comparison of the Centigrade and Fahrenheit Scales.

Since the distances between the B. P. and the F. P. on the Fahrenheit and the Centigrade thermometers are equal, but the divisions unequal, 100 in the latter and 180 in the former, the readings do not correspond; but the reading on one scale may be interpreted in the other as follows:

100° C. = 180° F.

∴ 1° C. = 100/180° = 5/9° F.

conversely, 9/5° F. = 1° C.

As the F. scale begins with 32° as the freezing point, this number must be added or subtracted algebraically according to the comparison to be made; as,

50 F. = (50° — 32°) × 5/9 = 10° C.

— 4 F. = (— 4° — 32°) 5/9 = — 20° C.

20° C. = (20° × 9/5) + 32° = 68° F.

— 10° C. = (— 10° C. × 9/5) + 32° = 14° F.

Readings below .0 must be considered as negative.

EFFECT OF HEAT ON GASES.

Experiment XIX.

Apparatus. As in experiment XVIII.

Object. To determine the effect of heat on gases, using air as a type.

Observation. Invert the flask with the mouth of tube in water. Place the hand on the bottom of the flask or heat with Bunsen burner. Bubbles pass from the end of the tube through the water. Let the flask cool. Water flows up the tube into the flask.

Inference. Heat expands gases.

Illustrations. See propagation of heat in gases; expansion of steam boilers; gas engines; explosions of accumulated gas when a lighted lamp is brought into it; steam engines; driving a cork from a heated bottle. Water in flask if experiment 19 will rise in tube when neck of bottle is held in the hand.

VAPORIZATION.

Vaporization is the process of converting a substance, especially a liquid, into a vapor.

When this process takes place slowly, it is called evaporation. Evaporation takes place from the free surface of a liquid at all temperatures.

Heat or reduction of pressure is required for evaporation; the greater the heat, the faster the evaporation, and vice versa. See experiment 20.

Experiment XX.

Apparatus. Alcohol or ether, thermometer, the hand, cotton.

Object. To determine the cause of evaporation and the effect of evaporation on temperature.

Observation. Put a drop of ether or alcohol on the hand. It soon disappears and the spot where the drop rested feels cool.

Note the temperature of the room. Take the temperature of alcohol or ether. Put a few drops of the liquid on cotton batting and wrap the bulb of the thermometer with the moistened cotton. In a short time the liquid has evaporated. The thermometer will show a fall in the mercury. Remove the batting and the thermometer again shows the temperature of the room as before.

Inference. Heat causes evaporation; evaporation lowers the temperature.

Illustrations. Water sprinkled on the pavement on a hot day lowers the temperature; the hands feel cool after washing, owing to continued evaporation of water absorbed by the hands; a test tube of water in a dish of ether may be frozen by causing the rapid evaporation of the ether by passing air from a bellows through the ether; the drying of wet clothing; evaporation from the surface of ice.

Cold storage plants are now operated without ice. The temperature is reduced by the rapid evaporation of ammonia and water under a reduced pressure, after first having been confined under a high pressure. This process uses the heat from the surrounding atmosphere. Ice is also produced by reducing the temperature of water by the above process.

CONDENSATION.

Condensation is the passage of vapor from the aerioform state to the liquid state.

As heat is expended in evaporation, the same amount of heat is set free in condensation. Conversely, as heat produces evaporation, cold produces condensation. Other causes, as compression and chemical action, may produce condensation. See Exp. 21.

Experiment XXI.

Apparatus. Flask of water, Bunsen burner, plate glass or any object whose temperature is lower than the boiling point.

Object. To determine a cause of condensation.

Observation. Boil violently the water in the flask. Steam can be seen at the mouth of the flask and above it, but not in the flask. Hold the plate glass above the flask. Water drops collect on the glass. The same result is produced when an iron plate is used. Heat the iron plate to a temperature greater than the boiling point of water and hold above the flask. No water drops are formed.

Inference. The cooling of vapor is one cause of condensation.

Illustration. Fog, dew, clouds, rain, collection of water drops on the outside of an ice pitcher, distillation, liquid air.

LATENT HEAT.

If a liquid be heated to the boiling point and kept boiling, the temperature of the water does not rise, but remains constant. The heat applied after the boiling point is reached is expended in vaporizing the liquid. The heat required to maintain this temperature is called latent heat.

Latent heat of a liquid is, then, the heat required to vaporize it without a change of temperature. This is true whether the boiling point is maintained or not so long as vaporization continues.

PROPAGATION OF HEAT.

Experiment XXII.

Apparatus. Iron rod, sealing or paraffine wax, coins, Bunsen burner.

Object. To determine a method of propogating heat in a solid.

Observation. Fasten several coins along the rod by means of wax. Heat one end of the rod. In a few minutes the wax melts and the coins drop off; the one nearest the heated end, first, and the one farthest away, last.

Inference. Condensation is a method of propagating heat in solids.

Definition. Conduction is a method of propagating heat by passing from molecule to molecule.

Illustrations. End of poker in fire, the other end becomes heated; handles of cooking utensils become heated though not in contact with the source of heat; heat is conducted to water in a tea kettle through the metal.

Experiment XXIII.

Apparatus. Iron, wood, glass, cloth, thermometer.

Object. To determine if all solids conduct heat with the same facility.

Observation. As all the articles have been exposed in the room, it is probable that all are of the same temperature. Test temperature of each, however, by resting the bulb of the thermometer on each article. Each registers the same. Feel of each. The iron seems colder than the others; the glass seems colder than the wood and the cloth; and the wood seems colder than the cloth.

Inference. Some solids are better conductors of heat than others. Iron is a better conductor than the others and so carries the heat of the body away faster.

Illustrations. As above, fireless cookers, ice boxes. Wrap around a pencil fitted with a metal cap; hold over a slow flame where the cap and the wood join; the paper burns quickly over the wood; the iron carries the heat away more rapidly than does the wood and does not allow the paper to become hot enough to burn at once.

To prevent the waste of heat, steam pipes, furnaces, etc., are covered with material of low heat conductivity, such as asbestos, felt, etc.

Rooms are constructed with double walls with fine material packed between to maintain the temperature desired; double windows prevent the loss of heat by the interposing, non-conducting layer of air. Clothing is not warm of itself, but it hinders the body from losing heat because of its spongy texture and the air it contains in mesh. Bottles constructed with double walls, both with and without an interposing layer of air.

Experiment XXIV.

Apparatus. Test tube of water, Bunsen burner.

Object. To determine if a liquid is a good conductor of heat.

Observation. Hold the burner against the upper part of the tube. Lower the thermometer to the bottom of the test tube and note temperature. Take the temperature of the top of the tube The water at the top shows a much higher temperature than at the bottom.

Inference. Water is a poor conductor of heat.

Experiment XXV.

Apparatus. Flask filled with hot colored water and closed with a cork holding two tubes passing into the water jar of water.

Object. To determine a method of propagating heat in a liquid.

Observation. Lower the flask into the jar of cold water. Cold water enters one tube and forces the lighter hot liquid out the other tube as indicated by the upward movement of the colored water. Invert the flask and the flow of water ceases.

Inference. Convection is a method of propagating heat in a liquid.

Definition. Convection is a method of propagating heat by the molecules becoming heated and moving upward.

Illustrations. Hot water system of heating buildings, heating of liquids. The movement of a heated liquid may be followed by heating a flask of water in which is a quantity of fine saw dust. The saw dust will be whirled about in a current of water as the water passes from the bottom upward.

Connect the bottle used in experiment XXV with another bottle inverted above the first. Let the lower bottle be filled with cold colored water and the upper one with clear water. Heat the lower one gently. The colored liquid

moves up one tube and the clear water down the other.

Experiment XXVI.

Apparatus. Fan wheel, made by cutting a square paper from each corner nearly to the center and folding the alternate corners so made to the center and thrusting a pin through them, and the center; Bunsen burner; black board eraser.

Object. To determine a method of propagating heat in gases.

Observation. Strike two erasers together. The dust falls to the floor. Strike them over the flame of a Bunsen burner. The dust rises a distance above the burner and then falls to one side of the burner. Hold fan wheel over the flame. The wheel revolves.

Illustrations. Furnace heat, steam heating, ventilation of rooms, winds; the air in a room is warmer at the top.

Experiment XXVII.

Apparatus. Bunsen burner or candle.

Object. To determine a method of propagating heat in gases.

Observation. Hold the hand near flame or hot iron. Heat is felt.

Inference. Radiation is a method of propagating heat in gases.

Definition. Radiation is the process of heating a body through a medium without heating the medium.

Illustrations. Heat from the sun which heats the earth and the heat is again radiated from the earth; heating rooms from radiators, stoves, etc.

Experiment XXVIII.

Apparatus. Two tin cans of equal size, one bright, one blackened by holding in candle or gas flame; water, thermometer.

Object. To determine if all bodies radiate heat to the same degree.

Observation. Fill the two cans with hot water of the same temperature and cover the cans. After fifteen minutes, take temperature of the water in each can. The water in the bright can has the higher temperature.

Inference. All bodies do not radiate heat to the same degree. Dark objects radiate heat faster than bright objects, because the gright surface reflects the heat faster than bright objects, because the bright surface reflects the heat back into the body.

Bodies with rough surfaces radiate their heart faster than bodies with smooth surfaces. For this reason light colored clothing is cooler for summer wear.

The earth radiates its heat faster than bodies of water. This is the reason why bodies of water are warmer than the air and the earth when the thermometer shows a lower temperature, even though the drop in temperature is maintained for a continued period.

Experiment XXIX.

Apparatus. Same as in experiment XXVIII.

Object. To determine if all bodies absorb heat to the same degree.

Observation. Fill the cans with cold water. Place near Bunsen burner at equal distances from it. After fifteen minutes take the temperature of the water in ach can. The water in the black can shows the higher temperature.

Inference. All bodies do not absorb heat to the same degree. Dark bodies absorb heat more quickly than light objects

Illustrations. The earth becomes heated more quickly than bodies of water.

The absorbing power of bodies may be illustrated by spreading a black cloth and a white cloth side by side on the snow in the sun light. After a short period the snow will be found melted deeper under the black cloth than under the white one.

Easy Lessons in Logic

Continued from Vol. IV No. 2 of McEvoy Magazine

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CHAPTER 4.
LOGICAL TERMS.

1. LOGICAL THOUGHT AND LANGUAGE INSEPARABLE.

Any impression upon the mind tends to manifest itself in some form of expression. Impression which arouses thought tends to expression in the form of symbols. Thought and symbol go hand in hand. Expression, taking the form of word-symbols, constitutes a word-language.

It is commonly supposed that language is serviceable mainly in communicating one's thoughts to others, but language does service in another way which is quite as important. It tends to clarify and make definite all thought. Without a word-language thinking would lack continuity; would be vague, loose, illogical: The right use of a word-language, therefore, is a necessary adjunct to logical thought. The basic element of a word-language is the logical term.

2. MEANING OF LOGICAL TERM.

Apprehension has been referred to as the name for thinking in its simplest form, and the *notion* as the product of apprehension. When we express these notions in words such expressions are called logical terms.

Definition. *A logical term is a word or a group of words denoting a definite notion.* Illustration: Honesty, Chicago, tree, walking, the man who was ill, beautiful roses. This is a list of logical terms, because each word or group of words denotes a *notion* of some kind.

Any subject or predicate with its modifiers constitutes a logical term. In the proposition, "The beautiful red house on the hill, owned by Mr. Jones, has burned," the term used as the subject consists of eleven words. The reader must not confuse logical terms with grammatical parts of speech. "Of" is a preposition but not a logical term as no definite notion is indicated.

CATEGOREMATIC AND SYNCATEGOREMATIC WORDS.

There are some words which when used alone denote definite notions such as man, tree, dog, justice. On the other hand there are other words which when used alone do not stand for a definite notion such as up, beautifully, a, and.

Words like those in the first list are called categorematic words, while those in the second list illustrate syncategorematic words.

Definition.

A categorematic word is one which forms a logical term unaided by other words. A syncategoreatic word is one which must be used with other words to form a logical term.

Any word or group of words which can be used as either subject or predicate of a proposition is a logical term. If the *one* word in question can be used as either subject or predicate of a proposition then it must be a categorematic word. If it is impossibile to use the one word as either subject or predicate of a proposition then this is a sure indication that such a word is syncategorematic. For example there is no sense in the expression, *And* is honest, *of* is not true.

We may conclude from this that nouns, descriptive adjectives, and verbs may be categorematic words while adverbs, prepositions and conjunctions are syncategorematic words.

3. SINGULAR TERMS.

A singular term is a term which denotes one object or one attribute.

Proper nouns when they stand for individuals are singular terms, such as John Adams, Mississippi River, Socrates. Some proper names stand for a class of objects as the Cæsars, the Mephistopheles, the Napoleons; but when thus used they lose their character as proper names. Such names, therefore, are general terms, not singualr.

Common nouns may be made singular by some modifying word as the first man, the pole star, the highest good, my pet dog, etc.

Certain attributes which imply a *oneness* or a distinct individuality are singular such as absolute justice, birds-egg blue, perfect happiness, etc.

Some claim that such terms as water, air, salt are singular as they stand for one thing. This, however, cannot be so if we admit the possibility of there being different kinds; as, hard water, soft, water, mineral water. Singular terms do not admit of division into kinds.

4. GENERAL TERMS.

A general term is one which denotes an idefinite number of objects or attributes.

Class-names are general terms such as man, chair, tree, army, nation. Words like redness, sweetness, justice, are probably general in that they denote a combination of qualities or may be subdivided into kinds.

The way the term is employed in the proposition should determine its singular or general nature.

5. COLLECTIVE AND DISTRIBUTIVE TERMS.

A collective term is a general term which indicates an indefinite number of objects considered as ONE WHOLE. Such words as class, crowd, army, forest, nation are collective.

A distributive term is a general term which indicates an indefinite number of objects as a whole and also may be used to refer to each one of the group separately; Sŭch as man, pupil, tree, book.

It is easy to distinguish collective from distributive terms when we attempt to use them in the designation of individuals. Pointing to a body of troops, one may remark, "There is the regiment." But when pointing to *one man* in the regiment, he could hardly say," There is the regiment." Regiment is therefore collective because it may be used with reference to the whole body of troops but cannot be used in connection with any individual of that body.

On the other hand in the sentence, Man is mortal, man refers to the whole family of men. It also indicates any one of them. As, This man, John Doe, is mortal. Thus man is distributive.

The distributive term, therefore, can be used in a two-fold sense, namely: to denote the whole or to denote each.

It must be noted that viewed from a different standpoint some collective terms become distributive in nature. As for example in the proposition, The army of the world is composed of able bodied men, *army* is used with reference to all armies. While it may be used to designate some particular army, as: The American army.

Collective terms have been classified as general terms. It must be borne in mind, however, that such may be made singular by some modifying word. For example, *people* is a general term but *American people* is a singular term in that it refers to one people, being thus limited by the word American.

6. CONCRETE AND ABSTRACT TERMS.

A concrete term is a term which denotes a thing; e. g. this man or that tree denotes in each case a thing. Man and tree denote many things. All are concrete.

An abstract term is a term which denotes an attribute of a thing; e. g., whiteness, patience, squareness, are abstract terms.

Such words as red, honest, just, are concrete; while redness, honesty, justice are abstract.

On first thought it might be inferred that red is the name of an attribute just as much as redness. This is a mistaken thought, however, as when we use the word red we mean red something—an *object* which is red in color, not the color itself. For example, in saying the house is red we refer to the thing that is red, not to the color redness.

Descriptive adjectives because they describe things are concrete. They do not name qualities of things, hence they are not abstract.

7. CONNOTATIVE AND NON-CONNOTATIVE TERMS.

A connotative term is one which denotes a subject and at the same time implies an attribute.

All concrete general terms are connotative because they denote subjects or objects and at the same time stand for certain attributes or qualities e. g., man denotes many objects, in fact it stands for all the men in the world; it also implies rationality, the power of speech, of locomotion, etc. Triangle stands for all plane figures of three sides; it likewise stands for the qualities, threesided, three-cornered, etc. Both man and triangle are connotative.

A nonconnotative term is one which denotes a subject only, or implies an attribute only. Such words as Boston, Columbus, The Elizabeth White denote a subject only. Blueness, justice, width imply an attribute only. All these terms are non-connotative. The words blue, just, wide are connotative. Blue, for example, denotes all blue things as the blue sky, the blue sea; at the same time blue implies that something possesses the quality, *blueness.*

Generally speaking, proper and abstract nouns are non-connative; though such proper nouns as Mount Washington, Mississippi River are no doubt connotative as they denote an object and imply at least one attribute. In the case of Mount Washington an object is surely denoted and the attribute mountainous is implied.

Any proper noun which conveys definite information is connotative.

It may be claimed that all proper nouns give information. For example, to many *Boston* indicates not only an object but the qualities common to a city. In reply it may be said that Boston might indicate a boat, or a dog, or almost any individual object.

8. POSITIVE AND NEGATIVE TERMS.

A positive term is one which signifies the possession of certain attributes, e. g. metal, man, teacher, happy, honest.

A negative term is one which signifies the absence of certain attributes, e. g., inorganic, unhappy, non-metalic.

Terms which have the prefix not, non, un, in, dis, etc,. or the affix less are usually considered negative. The fact that there are some exceptions to this must not be overlooked. For example, unloosed, invaluable are positive terms.

In theory every positive term has its corresponding negative; as pure, impure; organic, inorganic; metal, non-metal; good, not-good.

In some instances the language does not supply the word with the negative prefix because no need of it has been felt. The only way to express the negative of such words as good, table, etc. is to prefix not or non.

9. CONTRADICTORY AND OPPOSITE TERMS.

The positive terms with their negatives have contradictory meanings and therefore are referred to as contradictory terms. For example, honest and not-honest, metalic and non-metalic, perfect and imperfect are contradictory terms. Such terms are mutually destructive. When we assert the truth of one we also imply the falsity of the other. If, for example, we assert that Abraham Lincoln was honest, we carry with this assertion the implication that Lincoln was not not-honest, or that any statement to the effect that he was not honest is false.

Contradictory terms when used in a sentence illustrate the law of excluded

middle, as in the statements. John's recitation is either perfect or imperfect. This teacher is either just or not-just. There is no middle ground in such propositions.

When contradictory terms are used in classification the whole is divided into but two classes; e. g.:

honest	—	not-honest
agreeable	—	not-agreeable
metalic	—	non-metalic
perfect	—	imperfect
pure	—	impure
organic	—	inorganic

All the men in the world are either honest or not-honest. All the substances in existence are either organic or inorganic, etc.

It will also be seen from this list that the contradictory of the positive form is not always indicated by using the prefix. Honest and dishonest or agreeable and disagreeable are not contradictory terms. In the case of agreeable and disagreeable there seems to be the middle ground of absolute indifference. For example: the music of the orchestra is agreeable while the humming of the enthusiast back of me is decidedly disagreeable. But as to the noise upon the street, it is neither agreeable nor disagreeable as long practice has made me indifferent to it.

When there is any doubt as to the terms being contradictory, the safest plan is to prefix not or non to the positive form.

Terms which oppose each other but do not contradict are said to be opposite or contrary terms. The following list illustrates opposite terms.

hot	—	cold
cool	—	warm
less	—	greater
wise	—	foolish
bitter	—	sweet
soft	—	hard
tall	—	short
agreeable	—	disagreeable

All these terms admit of a medium. In the case of hot or cold, for example, a substance need not necessarily be either. It may be warm or cool.

Terms seem to be contradictory when it is a matter of quality, but opposite when it is a question of quantity or degree.

10. PRIVATIVE AND NEGO-POSITIVE TERMS.

A privative term is one which is positive in form but negative in meaning. Such words as blind, deaf, dumb, dead, maimed, orphaned are privative terms in that there is no negative prefix or suffix and yet they denote the absence of certain qualities. Blind, for example, is positive in form but denotes absence of sight.

A nego-positive term is one which is negative in form but positive in meaning. Such terms as invaluable, unloosed, immoral, indwell are nego-positive because though they have negative prefixes yet they possess a certain positive meaning. Invaluable, for instance, does not mean not-valuable but very valuable.

11. ABSOLUTE AND RELATIVE TERMS.

An absolute term is one whose meaning becomes intelligible without reference to other terms. Automobile, water, tree, house, book, are absolute terms. Any of them may be made clear to a child or a foreigner without special reference to other terms. For example, the child will recognize from certain common marks the automobile every time he sees it. The marks of tree, house, flower are apparent to every one.

A relative term is one which derives its meaning from its relation to some other term. Parent, teacher, shepherd, monarch, eldest, cause, commander are relative terms. In explaining the meaning of parent, for example, to a foreigner reference would need to be made to child. The pairs of terms thus associated are spoken as correlatives. Parent and child, teacher and pupil, shepherd and flock, monarch and subject, eldest and youngest, cause and effect, commander and army are cor-

relative terms. Either one of each pair is the correlate of the other; and every relative term needs its correlate to make its meaning clear. To say that a relative term denotes an object which cannot be thought of without reference to some other object is confusing as it is quite impossible to think of any object without calling to mind some other object or notion. Fire calls to mind water: tree suggests shade; etc.

12. OUTLINE.

Logical Terms.

1. Meaning of term.
2. Categorematic and syncategorematic words.
3. Kinds of terms.
   1. Singular terms.
   2. General terms.
      (a) Collective terms.
      (b) Distrbutive terms.
   3. Concrete and abstract terms.
   4. Connotative and non-connotative terms.
   5. Positive and negative terms.
   6. Contradictory and opposite terms.
   7. Privative and nego-positive terms.
   8. Absolute and relative terms.

13. SUMMARY.

A logical term is a word or group of words denoting a definite notion.

A singular term is a term which denotes one object or one attribute.

A general term is a term which denotes an indefinite number of objects or attributes.

General terms are collective or distributive.

A collective term is a general term which indicates an indefinite number of objects considered as *one whole.*

A distributive term is a general term which indicates an indefinite number of objects as a whole and also may be used to refer to each one of the group separately.

A concrete term is a term which denotes a thing.

An abstract term is a term which denotes the attribute of a thing.

A connotative term is one which denotes a subject and at the same time implies an attribute.

A non-connotative term is one which denotes a subject only or implies an attribute only.

A positive term is one which signifies the possession of certain attributes.

A negative term is one which signifies the absence of certain attributes.

In theory every positive term has its negative. As related to each other positive and negative terms are said to be contradictory. If one denotes a true notion then the other denotes a false notion.

Some terms oppose each other but do not flatly contradict. As related to each other such terms are said to be opposite.

A privative term is one which is positive in form but negative in meaning.

A nego-positive term is one which is negative in form but positive in meaning.

An absolute term is one whose meaning becomes intelligible without re-

A relative term is one which derives ference to other terms.

its meaning from its relation to some other term.

CHAPTER 5.

THE EXTENSION AND INTENSION OF TERMS.

1. TWO-FOLD FUNCTION OF CONNOTATIVE TERMS.

It has been indicated that a connotative term is one which stands both for a subject and an attribute. It may be observed here that an attribute of a notion is any mark, property or characteristic of that notion. Attribute, then, represents quality, relation or quantity. By a subject is meant anything which possesses attributes. Most subjects stand for objects and most attributes are qualities; consequently for the sake of simplicity we may use sub-

ject and object interchangeably; likewise attribute and quality.

A connotative term, therefore, denotes an object at the same time it implies a quality. To illustrate: The symbol *man* stands for the various individual men of the world such as Lincoln, Washington, Alfred the Great, etc., or for certain qualities like rationality, power of speech and power of locomotion. The connotative term teacher may be used to *denote* Socrates, Pestalozzi, Thomas Arnold, or *connote* such qualities as ability to instruct, sympathy, and scholarship. The term *planet* stands for such objects as Venus, Earth, and Mars and for such qualities as rotation upon axis, revolution about sun, and opaque or semi opaque bodies. In each of the three illustrations the term is employed both to denote objects and to imply qualities or used in a two-fold sense.

2. EXTENSION AND INTENSION DEFINED.

This double function of connotative terms furnishes an important topic for the student of logic—the Extension and Intension of Terms. In short some authorities claim that to master the extension and intension of terms is virtually to master the entire subject of logic. Though this position may be an exaggerated one yet the mere assertion that such is the case lends importance to the topic.

A term is used in extension when it is employed with reference to the objects for which the term stands.

When the term triangle is used to refer to the objects isosceles triangle, scalene triangle, right triangle, it is employed in extension.

A term is used in intension when it is employed with reference to the attributes for which the term stands.

The term triangle is employed in intension when we use it to refer to the qualities, three sided and three angled.

3. EXTENDED COMPARISON OF EXTENSION AND INTENSION.

A connotative term seems to be two dimensional—it has extent or length and intent or depth.

"Extension consists of the things to which the term *ap*plies" while "intension consists of the properties which the term *im*plies."

Extension is quantitative while intension is qualitative. An extensional use means to point out or number objects, while an intensional use means to describe by naming qualities. To name is to use a term in extension—to describe is to use a term in intension.

To divide a term into its kinds we must regard it in an extensional sense; e. g. the term *man* may be divided into Caucasian, Mongolian, Malay, Ethiopian, American Indian.

To define a term we must regard it in an intensional sense: e. g. man is a rational animal.

Etymologically considered extension means to *stretch out*, intension, to *stretch within*. To use a term extensionally one must *look out*. To use a term intensionally one must *look in*.

In attempting to use a term in extension we may ask ourselves the question, "What are the kinds?" or "To what objects may the term be applied?" While if we would use a term in intension the question should be, "What does it mean?" or "What are the qualities?" Let us, for example, use the term *metal* in the two senses, first in extension, second in intension. Question. To what *objects* may the term *metal* be applied? Answer. Metal may be applied to the objects silver, gold and iron. Thus, has metal been employed in *extension*.

Question. What are the *qualities* of *metal?* Answer. The qualities are element, metallic lustre, good conductor of heat and electricity. Thus, has metal been used in *intension*.

NOTE.—Since an attribute is anything which *belongs* to a subject then the *parts* of a subject must be classed as attributes. Hence, a term is used intensionally when reference is made to its parts.

4. A LIST OF CONNOTATIVE TERMS USED IN EXTENSION AND INTENSION.

The Term.	*Extensional Use.*	*Intensional Use.*
tree.	maple, oak, beech.	roots, branches, trunk. or woody-fiber, sap, bark.
house.	stone, brick, cement.	foundation, frame-work, roof.
dog.	shepherd, foxterrier, bull.	carniverous, quadruped, propensity to bark.
book.	textbook, dictionary, encyclopædia.	cover, leaves, binding.
quadrilateral.	trapezium, trapezoid, parallelogram.	four sides, four angles, limited plane.
logic.	theoretical logic, applied logic, educational logic.	science of thinking, art of right thinking, treats of laws of thought.
star.	Sirius, Arcturus, Vega.	heavenly body, gives light and heat. twinkles.
force.	gravitation, molecular, atomic.	produces motion changes motion destroys motion.
term.	general, singular, non-connotative.	word or group of words, definite idea.
government.	monarchy, aristocracy, democracy.	body of people, established form of law, banded together for mutual protection.
bird.	crow, robin, pigeon.	biped, feathered, winged.

5. OTHER FORMS OF EXPRESSION FOR EXTENSION AND INTENSION.

Extension.	*Intension.*
comprehension	content
extent	intent
breadth	depth
denotation	connotation
application	implication

Formerly the words extension and intension were applied to concepts while denotation and connotation were applied to terms representing the concepts. But now the words are interchangeable. Denotation the noun and denote the verb signify, etymologically, a *marking off*. To denote is to mark off or indicate the objects or classes of objects for which the term stands. Connotation the noun and connote the verb signify *to mark along with*. To connote is to mark along with the object, its attributes.

The terms which should be remembered are

extension or denotation and **intension or connotation**

6. LAW OF VARIATION IN EXTENSION AND INTENSION.

It has been noted that the intension of a term has reference to its qualities while extension considers its application to various objects. It may be wise to experiment with the extension and the intension of certain terms as types with a view of ascertaining how the two ideas are related to each other. For the sake of definiteness let us make use of the following scheme:

Intensional	I.	*Extensional*
(1) four sides (2) parallel sides (3) equal sides (4) right angles	common qualities of	(1) squares
(1) four sides (2) parallel sides (3) equal sides	common qualities of	(1) squares (2) rhombs
(1) four sides (2) parallel sides	common qualities of	(1) squares (2) rhombs (3) rectangles (4) rhomboids
(1) four sides	common qualities of	(1) squares (2) rhombs (3) rectangles (4) rhomboids (5) trapezoids (6) trapeziums
	II.	
(1) heavenly bodies	common quality of	(1) nebulæ (2) fixed stars (3) sun (4) comets (5) meteors (6) moon
(1) heavenly body (2) self-luminous	common qualities of	(1) nebulæ (2) fixed stars (3) sun (4) comets
(1) heavenly bodies (2) self-luminous (3) fixed	common qualities of	(1) nebulæ (2) fixed stars (3) sun
(1) heavenly body (2) self-luminous (3) fixed (4) twinkle	common qualities of	(1) nebulæ (2) fixed sta
(1) heavenly bodies (2) self-luminous (3) fixed (4) twinkle (5) foggy	common qualities of	(1) nebulæ

In considering the first illustration we observe that as the number of qualities is decreased, the number of objects increases. While in the second example as the qualities are increased, the number of objects decreases. It would appear from this that the intension and extension of a term are *inversely* related to each other. As the one increases the other decreases and vice versa. It is customary to state this relation in the form of a law known as the law of variation. *"As the intension of a term is increased its extension is decreased and vice versa,"* or the extension and intension of a term vary in an inverse ratio to each other. To illustrate further: this *book* refers to a large number of objects, add to the qualities of book, text book and its application is much reduced. In other words as we increase the intension, the extension is diminished. Increase the intension further by adding the quality English text book and the extension becomes still less.

6a. TWO IMPORTANT FACTS IN THE LAW OF VARIATION.

In studying the law of variation two facts are especially evident. (1) The law applies only to a series of terms representing notions of the same family. The extension and intension of text book, for example, could not be compared with the extension and intension of house as they belong to a different class of words: the genus of *text book* being *book,* while the genus of *house* is *building.*

To illustrate the law of variation, determine upon any class name then think of its proximate genus (the next *higher-up* class to which it belongs). Continue this till the series is sufficiently complete to illustrate the law. Or proceed in the opposite direction; that is, after selecting the class name think of the next lower term in the class and thus continue till series is complete. Illustration: The class name *man* is determined upon: the proximate genus of man is *biped*—the proximate genus of biped is *animal* and so on. Or thinking downward: a proximate species of man is *white man,* of white man, *European,* etc. Thus the series:

European white man *man*
biped animal.

(2) As a second fact: the increase and decrease is not a mathematical one. That is, by doubling the extension the intension is not halved. Or if the intension is decreased by one quality the extension is not necessarily increased by one object. Thus man stands for one billion seven hundred million beings or objects. Decrease the intension of man by the one quality of rationality and the extension would include all bipeds—many billion objects.

6b. THE LAW OF VARIATION DIAGRAMMATICALLY ILLUSTRATED.

In a general way *lines* may be used to represent the variation in extension and intension. For example: we may let a line an inch long represent the extension of man, one two inches long to represent the extension of biped, three inches long to represent the extension of animal, etc. While on the other hand if a line an inch long represents the intension of man a line one half inch long may be used to represent the intension of biped, one a quarter of an inch long to represent the intension of animal, etc.

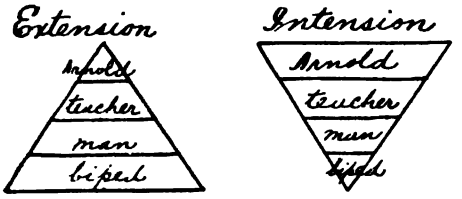
Similarly, the following scheme may be used to indicate the intensional and extensional relation of another series of words.

Extension		Intension
——	barn	————
———	building	———
———	structure	———
————	object	——

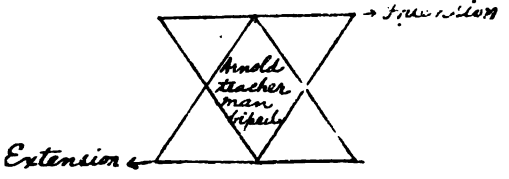
In the foregoing scheme *building* refers to a greater number of objects than *barn,* hence the line under *extension* representing *building* should be longer than the line for *barn.* Likewise *structure,* referring to a greater number of objects than *building,* is re-

presented by a longer line. Thus when the series is viewed from top to bottom a gradual increase in extension is noted. Giving attention to the intentional use of the series we note that *building* has fewer qualities than *barn, structure* fewer than *building* and *object* fewer than *structure*. Therefore from top to bottom the intension of the terms gradually decreases.

The triangle may be used to indicate the same relation.



The variation may become still more apparent if one triangle be placed upon the other, vertex to base, like the following:



Biped is written near the base or in the broadest part of the extension triangle because it denotes the greatest number of objects and is, therefore, broadest in extension. Man occupies a narrower part of the extension triangle because it refers to fewer objects or is narrower in extension than biped. Arnold occupies the narrowest part of the extension triangle because it is the narrowest in extension. On the other hand Arnold occupies the broadest part of the intension triangle because it is the deepest word of the secies in intension, while biped, having the least depth in intension, occupies the narrowest portion of the intension triangle.

7. OUTLINE.

The Extension and Intension of Terms.

1. Two-fold Function of Connotative Terms.
2. Extension and Intension Defined.
3. Extended Comparison of Extension and Intension.
4. A List of Connotative Terms used in Extension and Intension.
5. Other Forms of Expression for Extension and Intension.
6. Law of Variation in Extension and Intension.

6a. Two Important Facts in the Law of Variation.

6b. The Law of Variation Diagrammatically Illustrated.

8. SUMMARY.

1. Connotative terms are used in a two-fold sense: first, to denote objects: second, to imply qualities.

2. A term is used in extension when it is employed with reference to the objects for which the term stands. A term is used in intension when it is employed with reference to the qualities for which the term stands.

3. The answer to either of the following questions will lead one to use any term in extension. First, What are the kinds? or second, To what objects may the term be applied?

The answer to either of the following questions will lead to the use of any term in intension. First, What does it mean? or Second, What are the qualities?

4. To illustrate extension and intension it is best to use the class-names in every-day speech.

5. The word denotation is commonly used for extension and connotation for intension.

6. "As the intension of a term is increased its extension is decreased and vice versa," is a statement of the Law of Variation in the extension and intension of terms.

6a. The law of variation applies only to a series of terms representing

notions of the same class or family, the words being arranged in a species-genus order. The increase and decrease of the extension and intension of a series is not proportional.

6b. The law of variation is best explained by using two triangles, one superimposed upon the other vertex to base and base to vertx.

CHAPTER 6.

THE AMBBIGUOUS NATURE OF LOGICAL TERMS.

I. THE NEED OF EXACTNESS IN THE USE OF TERMS.

Words are thoughts *externalized.* They are moulds into which we pour the running stream of consciousness. They are fortresses and bord settlements which enable us to push further into the wilderness of undiscovered truth.

In building a railroad, the mode of procedure is not to survey first and grade the *entire line,* then place the ties of the whole to which the rails are finally spiked, but the usual mode is to survey first and then build completely *each mile* that the line may be used to bring to the center of operation the dirt, ties, rails and other supplies needed. This illustrates the use of words in logical thinking. The way into the wilderness of undiscovered truth is first surveyed and blazed by the thought powers after which by means of words the track is laid—every word being another mile in the trunk-line of thought. We may have thoughts which cannot be expressed in words and probably man would be able to think progressively in a very elementary way without the aid of words, yet the fact remains that words are quite essential to *extended* logical thinking. By means of words the isolated thought products are tied into packs, labelled and filed for immediate use when the need is felt. If we had not at hand these bundles of thought which represent years of mental labor it would be necessary for us to go back to the beginning on each new day. Each new day would we need to return to the starting point to survey the road over again.

Though words may be quite essential to extended logical thinking, yet to a certain degree they limit the thinking. After the track is laid it is easiest to confine our travelling solely to the territory that the track invades. Further —When words are used in a loose, careless manner they are a serious obstacle to logical thinking. This would not be true if in the English language each word had but *one* definite meaning. But the fact that words grow; the fact that they change in content and extent of application makes a condition, which would otherwise be simple, exceedingly complex. It is interesting to note that words change much as do human beings. From year to year man changes in character and consequently in influence. Likewise words change in character or meaning and in influence or extent of application.

Thus it happens that most words have more than one meaning and this leads to confusion. How easy it is for a writer to glide from one meaning to another or for a reader to attach a meaning to a word which is entirely foreign to the writer's intent. The habit of defining the term when there is any possibility of being misunderstood is the only safe and sane plan for him who would be clear, distinct, exact—in short, logical.

The "Ambiguity of Terms" thus becomes an exceedingly important topic from the standpoint of logic.

2. TERMS ARE UNIVOCAL OR EQUIVOCAL.

An univocal term is a term which possesses but one definite meaning. Automobile, oxygen, Alexander the Great are univocal terms.

An equivocal term is a term which possesses more than one meaning. Church, school, man are equivocal terms.

The term Alexander the Great is univocal because it stands for one individual, the son of Philip, King of Macedonia, and the man who conquered the world, or at least all the world he could reach.

The term man is equivocal because it may be used to mean the men of the world as in the sentence, "All men are mortal," or it may stand for certain qualities as in the sentence." It pays to be a man." A third meaning is apparent in the proposition, "To man the ship is my first duty."

3. UNIVOCAL, SINGULAR AND NON-CONNOTATIVE TERMS COMPARED.

In designating a term as *univocal* the attention is centered more particularly upon its *meaning*. While, when a term is classed as *singular*, it is necessary to consider its *application*. For example, to determine the univocal character of the term cathedral necessitates an understanding of the meaning of cathedral while the singularity of the term St. Paul's Cathedral is recognized from its application to one building.

All *singular* terms must be *univocal* as they must stand for one thing or one attribute and therefore must have one meaning. But all univocal terms need not be singular. Tea-cup is univocal as it possesses one definite meaning but is general in that it stands for many objects.

A non-connotative term denotes an object only or implies an attribute only; therefore in passing judgment upon terms from a connotative standpoint the attention must be directed towards both its application and meaning.

Univocal terms may be non-connotative. For example the term perfect happiness signifies one definite meaning and is therefore univocal. It also implies an attribute only and is thus non-connotative. But univocal terms may also be connotative as in the expression, "My yellow dog is only a mongrel." My yellow dog denotes the object dog and also implies the attribute yellow: hence the term is connotative. As the term signifies but one definite meaning it must be univocal.

A non-connotative term, judging from the definition, may be univocal. Because if one object is denoted only, that object must possess a definite meaning as in the term Abraham Lincoln. While if it implies one attribute only such must stand for a definite quality, quantity or relation as in the term absolute justice.

There are instances, however, where the non-connotative term may become equivocal. For example, justice implying quality only is non-connotative but there are various kinds of justice as civil justice and ethical justice. The former conveys a somewhat different meaning from the latter, therefore justice seems to be equivocal.

A non-connotative term may be singular; e. g. Alfred the Great or it may be general; e. g. justice.

To sum up: Univocal terms may be either singular or general: either connotative or non-connotative.

Singular terms must be univocal but may be either connotative or non-connotative.

Non-connotative terms may be either univocal or equivocal: either singular or general.

4. THREE KINDS OF EQUIVOCAL TERMS.

(1). *Equivocal in sound.* There are words in the English language which are given the same pronunciation but spelled differently. Following is an incomplete list of such words: hear, here —red, read—buoy, boy—air, are (metric unit)—might, mite—rein, rain, reign—write, wright, right rite—bread, bred—bear, bare—heel, heal—blue, blew— veil, vale—week, weak.

(2). *Equivocal in spelling.* There are some words which are alike in spelling but different in pronunciation e. g., read, read (red)—lead, lead (led)—tear, tear (tare)—address, address.

Words which are equivocal in sound or spelling perplex only those whose

knowledge of the language is exceedingly meager, hence we need to give little attention to them.

(3). *Equivocal in sound and spelling.* From the logician's standpoint this kind of term is the most troublesome of all, in that the meaning of the term can be inferred from neither spelling nor sound, but must be judged from its use in the sentence.

Terms of this class illustrate how language grows. It has been suggested that every word has a history—a history of how it originated and of the influences which directed the word to its present content.

In chapter 5 the reader learned that many terms have a twofold application, namely, (1) extensional and (2) intensional. Growth or modification in meaning has taken place, therefore, mainly along these two lines.

a. Modification through suggestion and Association.

It is apparent that many extensional and intensional changes have been caused through the suggestiveness of ideas. Take for example the word discipline. It is derived from the Latin *discere,* meaning to learn. The original meaning, therefore, was, "Treatment suited to a learner." But in the olden day when it was thought that the child was naturally bad—a devil incarnate—such treatment became especially harsh and so discipline came to mean *punishment.* Further, *hard work* was considered a punishment and so any subject which necessitated hard work was regarded as a disciplinary subject and thus we have this meaning, *instruction by suffering.* The development thus continued until today *discipline* is indicative of numerous shades of meaning suggested by such terms as *suited to a learner, punishment, instruction by suffering, system of rules,* (Romanish discipline) *severe training, correction, good order,* etc. The term discipline has consequently grown in intension through the power of suggestion.

The word *chair* may be used to illustrate growth in extension through *association of ideas.* As a noun it has three common meanings. (1) A single seat with a back—a piece of furniture. (2) A department in college—as the chair in psychology, or an official seat, as of a chief magistrate. (3) The presiding officer of an assembly— to address the chair. It is obvious that the second and third meanings spring from the close association between a chair and the person sitting in it.

Jevons illustrates this mode of growth by citing such words as house, church, foot, character and the like.

b. Modification through Resemblance.

Other modifications in meaning or in intension occur through some mark of resemblance. For example the word *airy* means anything consisting of air, as thin unsubstantial substances. Further it may be used in connection with the visionary or trifling, as airy fame. Again, to one light of heart, as I feel quite airy today, and finally the word may be used to designate one having an affected manner.

Jevons uses the words sweet and brilliant to illustrate this mode of growth in intension.

5. THE DIFFERENTIATION OF TERMS.

Often two or more words which originally had exactly the same content take on shades in meaning different from the original. Thus we have the synonym—words used in slightly different senses, such as inform, instruct, teach. One informs when he gives new facts, one instructs when he develops new truths, one teaches when he develops new truths by occasioning certain activities on the part of the individual.

Few exercises are better adapted to the cultivation of exact habits of speech than the learning of the distinguishing marks in synonymous words and the correct use of these words in sentences.

How often are words like the following misused: illusion and delusion,

determine and decide, discover and invent, egoism and egotism, excite and incite, make and produce.

6. WORDS SIMILAR IN SOUND OR SPELLING.

There are some words which though not exactly alike in sound or spelling bear such a striking resemblance to each other that they often lead to error. Especially is this true with immature minds whose auditory and visual powers have not been sharpened through training. To study the history of such words is interesting, as often they are derived from the same root and yet, in meaning, there seems to be little connection. It is especially important for the beginner to train himself in making clear and definite distinctions between words of this class. It is quite superfluous to suggest that teachers need to introduce such words cautiously making sure of the distinctions in spelling, pronunciation and meaning.

An incomplete list of such words follows:

respectfully	—	respectively
voracious	—	veracious
fiance	—	financier
emigrate	—	immigrate
eminence	—	imminence
conception	—	inception
migrate	—	mitigate
angel	—	angle
ibagery	—	imagine
imbecile	—	embezzle
obtuse	—	abstruse
emissary	—	missionary
motive	—	motor
conscience	—	conscious
genius	—	genus
council	—	counsel
intention	—	intension
perspective	—	prospective
proceed	—	precede
except	—	accept

7. OUTLINE.

1. Need of Exactness in Use of Terms.
2. Univocal and Equivocal Terms.
3. Univocal, Singular and Non-connotative Terms Compared.
4. Kinds of Equivocal Terms.
   (1) In sound.
   (2) In spelling.
   (3) In sound and spelling.
      a. Modification through suggestion and association.
      b. Modification through resemblance.
5. Differentiation of Terms.
6. Words Similar in Sound or Spelling.

8. SUMMARY.

1. Because the English language abounds in terms which have several meanings carelessness in the use of such leads to confusion.

2. An univocal term is one which possesses but one meaning.

3. An equivocal term is one which possesses more than one meaning.

4. Univocal terms may be either singular or general: either connotative or non-connotative. Singular terms must be univocal.

5. Confusion is caused by words pronounced or spelled alike.

6. The most troublesome words are those which are both pronounced and spelled alike.

7. A modification in meaning occurs through the suggestiveness of ideas and the association and resemblance of objects or notions.

8. As the language, develops, words which originally had exactly the same meaning become differentiated in meaning.

9. Words resembling each other in sound or spelling confuse the immature thinker.

Public Speaking

Material for January and February

By WALTER S. NEWTON

A JANUARY EXERCISE.

The successful teacher of today fully realizes that she must secure and hold the pupil's attention, that she must sustain the pupil's confidence in himself, and stimulate him to greater effort. The great problem is, how can this be done? It is a common complaint that many pupils are not interested in their work, that they contrive various excuses for being absent. Many schools have adopted the plan of devoting at least one period a week to special exercises of an educational nature. A certain topic is assigned or selected by the pupils of one grade, who take full charge of the program, which, if held without prior announcement of its nature, arouses a spirit of curiosity or expectancy, and attention is secured. If the exercise is held at the closing period of Friday afternoons, the pupils will endeavor to be present.

Thus the pupil's attention is secured through curiosity and sustained by interest; confidence in himself is promoted by taking part in such exercises, and he is stimulated to greater effort by discovering for himself that he can actually do things.

Various topics may furnish material for these special exercises, such as important events in the lives of great men, imaginary excursions, current events, historical events, important celebrations, places of interest, etc.

This January exercise is intended for use in the upper grades of the elementary schools. It is suggestive rather than complete and may be appropriately lengthened by adding a discussion of other important events that happened in the month of January.

1. BACON'S REBELLION, JANUARY 1, 1676.

The boys and girls of the present age cannot realize how much the English colonists suffered from the attacks made upon them by the Indians. It is not to be wondered at because the white man was cutting down the forests and driving away the game. He was clearing up the banks of the stream, thus destroying the home of the beaver. If the white man was not checked, the Indian would have no occupation and no home.

One night in January, 1676, a number of savages crept softly into a new settlement of Virginia and murdered about forty of the white settlers. The Virginians became very angry and appealed to Governor Berkeley to send a force against the Indians, but he refused and allowed the outrage to go unpunished. The people declared that if the governor would not defend them they would defend themselves. A rich young man, whose name was Nathaniel Bacon, raised a body of soldiers, contrary to the wishes of Berkeley, marched against the Indians and punished them severely. This brought about a civil war, in the course of which Berkeley was driven out of Jamestown, the capital, and the place was burned. Young Bacon became master of Virginia, but just as he was at the height of his success he died and the rebellion was at an end. Berkeley then returned to Virginia and killed twenty-three of Bacon's followers. The king, on hearing of Berkeley's revenge, deprived him of his office. When the old tyrant departed for England, guns were fired and bonfires kindled.

Bacon's rebellion accomplished at least two things; it caused the Indians to behave themselves for a time, and it enabled the Virginians to get rid of a very bad governor.

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2. BENJAMIN FRANKLIN, JANUARY 17, 1706.

Before the Revolutionary War a child was born who was destined to do a great deal for his countrymen. I refer to Benjamin Franklin who was born in Boston, Massachussetts, January 17, 1706. When he was ten years old, he was taken from school and put to work in his father's soap and candle shop. This work was not to his liking and very soon we find him studying the art of printing in his brother's office. As a boy he was a great reader and learned much about places outside his own surroundings. When he was seventeen, he ran away to New York, then to Philadelphia where he found employment in a printing office. He was industrious, and in time became very successful in business.

He published the first newspaper in America and established Poor Richard's Almanac, famous for its wise and witty sayings. But Franklin is remembered chiefly for what he did for his countrymen during the Revolution. He was in England when the war broke out and, on hearing the news, immediately returned to America. He was chosen a memeber of the Congress which drew up the Declaration of Independence and was one of its signers. He went to France as a representative of the United States and secured the French alliance. He was one of the commissioners who negotiated a treaty of peace with Great Britain. He was a member of the Convention which framed out present Constitution.

Benjamin Franklin's name will always be spoken of with honor and respect for the many kind and noble acts which made his life one of great usefulness and an honor to his country. He lived to see his country reach a period of prosperity. He died in 1790, having reached the age of eighty-four.

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3. THE COLONIAL FLAG, JANUARY 1, 1776.

Every true American ought to know the history of the flag which we love so dearly and which has cost this country so many lives.

On the first of January, 1776, a flag of a new design was adopted as the ensign of the united colonies. The colonists were still struggling with Great Britain for their rights but they had not declared themselves free from their mother country. Yet they were united in their purposes and wished to have a new national emblem. They adopted the British union ensign of two crosses, thus indicating their allegiance to the king, and added thirteen alternate stripes of red and white to represent the original thirteen states.

On June 14, 1777, the symbol of British union was changed to a blue field containing thirteen stars. This flag was probably first unfurled August 3, 1777, at Fort Schuyler (now Rome), New York. The first battle in which it was used was probably the Battle of Brandywine, September 11, 1777. In 1795, two stars and two stripes were added for Kentucky and Vermont, but it was seen that the addition of a stripe for each new state would make a very ill-proportioned banner; in 1818 the number of stripes was reduced to thirteen, with the provision that a new star should be added for each new state admitted into the Union. Since the adoption of our flag, nearly every other nation has either changed its national ensign or made important alterations in it, so that the American flag is one of the oldest national banners.

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4. BATTLE OF PRINCETON, JANUARY 3, 1777.

I am going to tell you about a battle

that was fought not very far from New York City. I wish to speak about the Battle of Princeton.

Washington had given his men a brief rest after the battle of Trenton, where you will recall he captured a thousand Hessians and then decided to recruit his army. He managed to collect 5000 men, three-fifths of whom were merchants, mechanics and farmers, who knew nothing of war, but, inspired with the love of country, had left their warm fire-sides in the midst of winter to lie upon the ground without tent or shelter; to march through snow and storm; to encounter privation and danger, if they could only drive back the foe.

Cornwallis was pressing forward from Princeton, New Jersey, with the flower of the British army. At Trenton he found Washington's army in a sorry plight. Before him was a powerful army, behind him a river full of floating ice, yet Cornwallis decided to delay his attack until morning saying that "he would catch the fox in the morning." Washington was not to be caught so easily. He determined to sweep around the British left, by a circuitous route known as the Quaker road, to Princeton. To conceal the movement, sentinels kept their posts until daybreak, heaping fuel on the blazing fires.

Having arrived near Princeton, about sunrise Washington with the main body of soldiers met the British, who were left to guard Princeton, and drove them back. A part fled to Brunswick and a part took refuge in Princeton College where they were captured. Washington with his wearied men, turned toward Morristown, where, among the rugged highlands, he would be safe form pursuit.

That morning's light had revealed to Cornwallis the smouldering watch-fires and the deserted camp of the Americans. These exploits won for Washington universal praise. He was declared to be the saver of his country.

5. BATTLE OF NEW ORLEANS, JANUARY 8, 1815.

This was the battle that was fought after a treaty of peace had been agreed upon between the United States and Great Britain.

Late in the year 1814 the British sent a fleet of 50 vessels and an army of 16000 veterans under General Pakenham against New Orleans. The Americans, under command of Andrew Jackson with an army of 6000 troops, undertook to defend their stronghold which consisted of a bank of earth five feet high and a ditch filled with water. Behind these breastworks were 3000 Tennessee and Kentucky riflemen, the finest marksmen in the world. After several skirmishes Pakenham made a last bold charge (January 8, 1815) upon the banks of earth. The Americans did not fire until the British were close at hand, then a stream of fire flashed from the whole American line, and whole platoons of the British fell in their tracks. The enemy was thrown into confusion, and the plain was strewn with the dead and the dying. In the vain attempt to rally his troops, General Pakenham was killed. In twenty-five minutes Jackson had won the victory which cost the British their commander and 2500 men. The American loss was 8 killed and 13 wounded.

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6. THE DISCOVERY OF GOLD IN CALIFORNIA, JANUARY 19, 1848.

The discovery of gold in California was made by a man named Marshall. He was engaged in the construction of a mill-race in the Sacramento valley of the American river, when he found a piece of metal which proved to be gold. In a few weeks it was discovered that gold was aboundant throughout the whole valley. The news of Marshall's discovery soon reached the Atlantic Coast and soon it was known all over the civilized world. A wild rush for the gold field followed. Men of all

classes and professions started for the coveted fields. They travelled on foot, on horseback, in wagons, in carts, by rail and by boat.

There were at that time two ways to get to this coveted field,—one around Cape Horn, another by the route overland. Of the two the overland route was perhaps the more dangerous, for the path lay across vast plains, unoccupied except by herd of buffoloes and hostile Indians. The hardships and sufferings of these overland emigrants were many and severe. Notwithstanding the hardships, in less than two years there were fully 100,000 emigrants in California. San Francisco in a few months was changed from a small village to a city. The magic touch of gold had changed California almost instantly from a sleepy Mexican province into a wide-awake American State.

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7. THE STAR OF THE WEST, JANUARY 9, 1861.

At the very begining of the Civil War an important event happened not far from the city of Charleston, South Carolina. While the North was busily debating means of saving the Union, the South was planning for a separation from the Union. South Carolina was the first to withdraw. By January 1, 1861, she had taken possession of all the forts in Charleston Harbor except Fort Sumter, which was held by Major Robert Anderson of the United States army. President Buchanan, knowing that Anderson had but few supplies and a very few men, sent a boat called the "Star of the West" to his relief, bearing men and provisions.

As the steamer entered Charleston Harbor, January 9, 1861, she was fired upon by the secessionists and compelled to return without landing her supplies. This act of the South showed that the breaking up of the Union was inevitable.

8. EMANCIPATION PROCLAMATION, JANUARY 1, 1863.

Every school boy is familiar with the name Abraham Lincoln. I wish to speak about one of the many important events in his career. The firing upon Fort Sumter was the beginning of the Civil War. Important battles were fought at Bull Run, Fort Henry, Port Donelson, Shilo, Antietam and Fredericksburg.

Victories were gained on both sides. It was late in the summer of 1862, while Lee was invading Maryland that Lincoln made "a solemn vow before God" that if the Confederates were driven back, he would celebrate the victory by giving the slaves their freedom. Accordingly five days later, when Lee was defeated at Antietam, Lincoln, issued a preliminary Proclamation stating that, if the seceded States did not lay down their arms and return to the Union before January 1, 1863, all persons held as slaves shall be thenceforth and forever free. No notice was given the preliminary proclamation and so on January 1, 1863, Lincoln issued the proclamation which gave freedom to the negroes who were held as slaves. He issued the proclamation simply as a war measure, for under the Constitution he had no right to give the slaves their freedom. He did it to save the Union.

This proclamation was the first official blow against slavery, and henceforth made the war not only a struggle to maintain the Union of the States, but also a struggle to free the slaves.

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9. RESUMPTION OF SPECIE PAYMENTS, JANUARY 1, 1879.

On the first of January, 1879, the Secretary of the Treasury, John Sherman, announced that he would give gold for any United States notes which might be presented for payment. So excellent was the credit of the government on account of the steady payment of the debt, that the notes had become

equal to gold. When the holders knew that they could get gold whenever they wished, they preferred the notes. The resumption of specie payment increased the credit of the government still more, so that if it wished to borrow money it could do so at a lower rate of interest. This act enabled the government to lessen its debt with a great saving in the annual expense of interest.

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10. THE REVOLUTION IN HAWAII, JANUARY 14, 1893.

Everyone should be interested in the Hawaiian Islands as they belong to the United States.

We became interested in these islands, due largely to a revolution which took place there in January, 1893. The inhabitants had revolted against their queen and her advisers due to measures of oppression. A "Committee of Safety" was organized and requested the protection of the United States; accordingly troops were sent in order, it was stated, to preserve peace and to protect American interests. A "Provisional Government" was organized and set up "until terms of union with the United States have been negotiated and agreed upon." The queen submitted against her wishes, and the government was recognized by the United States minister. A body of Commissioners were sent to negotiate a treaty of annexation with the United States. The treaty was not acted upon until a special commissioner was sent to Hawaii to investigate and report to the Senate. Shortly after reaching Hawaii the commissioner declared the government that had been organized to be at an end, and ordered the United States flag, which had been raised over the government building to be howled down.

On the return of the commissioner with his report a new minister was sent out with instructions to restore, if possible, the queen to her former position, on the ground that it was the illegal use of the United States troops which had brought success to the revolutionists.

It was due to the war with Spain that we secured the Hawaiian Islands. Dewey's victory at Manila showed very clearly the advantage to the United States of owning the Islands for naval purposes. They were annexed to the United States in 1898.

Life of Washington.

An Exercise for Six Pupils.

1. George Washington was born at Pope's Creek, Westmoreland County, Virginia, February 22, 1732. He passed his early childhood on the estate of his brother, opposite Frederickburg. When he was fourteen years old his brother Lawrence obtained for him a warrant

as a midshipman in the British army, but his mother refused to let him accept it. When he was sixteen years old he became a surveyor.

2. I wish to give a few facts about Washington's military experience. When he was eighteen years old he became Adjutant-General of militia, with the rank of Major. When he was twenty-one he was appointed commissioner to demand of the French military authorities their reason for occupying posts on the Ohio River. He made the journey of more than sixty miles through the forest.

When he was twenty-two he was appointed Lieutenant-Colonel of a Virginia regiment, and led it to the attack of Fort Necessity, where he was obliged to surrender. He was aide on the staff of General Braddock in that general's expedition against the French and Indians, and was at Braddock's defeat. At the age of twenty-six he led the Virginia militia against Fort Duquesne, and planted the English flag over its ruins.

3. All these events are eloquently outlined in Senator Daniel's address at the unveiling of the Washington Monument. Senator Daniel said:

"There emerges from the shades the figure of a youth over whose cradle had

hovered no star of destiny, nor dandled a royal crown—an ingenious youth, and one who in his early days gave auguries of great powers. The boy whose strong arm could fling a stone across the Rappahannock; whose strong will could tame the most fiery horse; whose just spirit made him the umpire of his fellows; whose obedient heart bowed to a mother's yearning for her son and laid down the midshipman's warrant in the British Navy which answered his first ambitious dream; the student transcribing mathematical problems, accounts, and business forms, or listening to the soldiers and seamen of vessels in the river as they tell of 'hairbreadth 'scapes by flood and field'; the early moralist of his thirteenth year compiling matured 'Rules for behavior and conversation'; the surveyor of sixteen exploring the wilderness of Lord Fairfax, sleeping on the ground, climbing mountains, swimming rivers, killing and cooking his own game, noting in his diary soils, minerals, and locations, and making maps which are models of nice and accurate draughtsmanship; the incipient soldier, studying tactics under Adjutant Muse, and taking lessons in broadsword fence from the old soldier of fortune, Jacob Van Braam; the major and adjutant-general of the Virginia frontier forces at nineteen—we seem to see him yet as here he stood, a model of manly beauty in his youthful prime, a man in all that makes a man ere manhood's years have been fulfilled, standing on the threshold of a great career, 'hearing his days before him and the trumpet of his life.'"

4. I shall briefly state other events in the life of Washington:

He was for fourteen years a member of the Virginia House of Burgesses. He was a delegate to the first Continental Congress in 1774.

June 15, 1775, he was elected Commander-in-Chief of the forces of the Continental Congress. On July 3d, at Cambridge he took command of the armies of Congress. At the close of the Revolution he was offered the crown of the United States by his army, but he refused it. On December 23d, 1783, he appeared before Congress and resigned his commission as Commander-in-Chief.

He was the president of the convention which adopted the Constitution of the United States.

On April 6th, 1788, he was unanimously elected President of the United States. He was unanimously elected for the second term, and took oath of office on March 4th, 1793. He issued his farewell address September 19th, 1796.

5. Another quotation from Senator Daniel's address is appropriate here:

"Ere long this happy life is broken. The air is electric with currents of revolution. England has launched forth on the fatal policy of taxing her colonies without their consent. The spirit of liberty and resistance is aroused. He is loth to part with the Mother Land, which he still calls 'home.' But she turns a deaf ear to reason. The first Colonial Congress is called. He is a delegate, and rides to Philadelphia with Henry and Pendleton. The blow at Lexington is struck. The people rush to arms. The sons of the Cavaliers spring to the side of the sons of Pilgrims. 'Unhappy it is,' he says, 'that a brother's sword has been sheathed in a brother's breast, and that the once happy plains of America are to be either drenched in blood or inhabited by slaves. Sad alternative! But how can a virtuous man hesitate in his choice?' He becomes Commander-in-Chief of the American forces. After seven years' war, he is the deliverer of his country. The old Confederation passes away. The Constitution is established. He is twice chosen President, and will not consent longer to serve."

6. September 19, 1796, Washington issued his farewell address. He retired to his farm, Mount Vernon, Virginia, and lived in peace for more than three years. He died December 14, 1799. "Amidst the tears of his people, the bowed heads of kings, and the lamenta-

tions of the nations, they laid him to rest upon the banks of the river whose murmurs were his boyhood's music—that river which, rising in mountain fastnesses amongst the grandest works of nature and reflecting in its course the proudest works of man, is a symbol of his history, which in its ceaseless and ever-widening flow is a symbol if his eternal fame."

Washington's Rules of Conduct.

When Washington was fourteen years old, he wrote these rules for his own guidance:

1. Every action in company ought to be with some sign of respect for those present.

2. In the presence of others, sing not to yourself with a humming noise, nor drum with your fingers or feet.

3. Be no flatterer; neither play with any one that delights not to be played with.

4. Read no letters, books, or papers in company; but when there is a necessity for doing it, you must ask leave. Come not near the books or writings of any one so as to read them, unless desired, nor give your opinion of them unasked; also look not nigh when another is writing a letter.

5. Show not yourself glad at the misfortune of another, though he were your enemy.

6. When you meet with one of greater quality than yourself, stop and retire, especially if it be at the door or any strait place, to give way for him to pass.

7. Let your discourse with men of business be short and comprehensive.

8. In visiting the sick, do not presently play the physician, if you be not knowing therein.

9. Undertake not to teach your equal in the art himself professes; it savors of arrogancy.

10. When a man does all he can, though it succeeds not well, blame not him that did it.

11. Being to advise or reprehend any one, consider whether it ought to be in public or in private, presently or at some other time, in what terms to do it; and in reproving, show no signs of choler, but do it with sweetness and mildness.

12. Take all admonitions thankfully, in what time or place soever given; but afterwards, not being culpable, take a time or place convenient to let him know it that gave them.

13. Mock not, nor jest at anything of importance; break no jests that are sharp-biting and if you deliver anything witty and pleasant, abstain from laughing thereat yourself.

14. Wherein you reprove another be unblamable yourself; for example is more prevalent than precept.

15. Use no reproachful language against any one, neither curse, nor revile.

16. Be not hasty to believe flying reports to the disparagement of any.

17. In your apparel, be modest, and endeavor to accommodate nature, rather than to procure admiration; keep to the fashion of your equals, such as are civil and orderly with respect to times and places.

18. Play not the peacock, looking everywhere about you to see if you be well decked, if your shoes fit well, if your stockings sit neatly, and clothes handsomely.

19. Associate yourself with men of good quality, if you esteem your own reputation; for it is better to be alone than in bad company.

20. Let your conversation be without malice or envy, for it is a sign of tractable and commendable nature; and in all causes of passion admit reason to govern.

21. Be not immodest in urging your friend to discover a secret.

22. Utter not base and frivolous things amongst grave and learned men; nor very difficult questions or subjects among the ignorant; nor things hard to be believed.

23. Speak not of doleful things in time of mirth, nor at the table; speak not of melancholy things, as death, and wounds, and if others mention them, change, if you can, the discourse. Tell not your dreams but to your intimate friend.

24. Be not tedious in discourse; make not many digressions, nor repeat often the same manner of discourse.

25. Be not angry at table, whatever happens, and if you have reason to be so, show it not; put on a cheerful countenance, especially if there be strangers, for good-humor makes one dish of meat a feast.

26. Set not yourself at the upper end of the table; but if it be your due, or that the master of the house will have it so, contend not, lest you should trouble the company.

27. Let your recreations be manful, not sinful.

28. Labor to keep alive in your breast that little spark of celestial fire called conscience.

—*Sparks' Writings of Washington.*

The Personality of Washington.

A Boy's Impression of Washington.

1. I remember the first time I ever saw Washington; indeed it is impossible I should forget it, or recollect it without the liveliest emotion. The school was dismissed, and we were told that General Washington was expected in town that day, on his way to Cambridge to take command of the American army. We, the children, were permitted to mingle with the people who had assembled in mass, to see him. I did see him: I riveted my eyes upon him; I could now, were I master of the pencil, delineate with exact truth his form and features, and every feature of his costume; so vivid are my recollections I can never forget the feelings his sublime presence inspired.

He did seem to be more than mortal. It is true this was young and ignorant enthusiasm; but, though young and ignorant, it was not false; it was enthusiasm which my judgment has always recognized as just; it was but the anticipated sentiment of the whole human kind.—*Senator Robins.*

Indian Tradition of Washington.

2. The New York Indians hold this tradition of him: "Alone of all white men," say they, "he has been admitted to the Indian heaven, because of his justice to the red men. He lives in a great palace built like a fort. All the Indians as they go to heaven, pass by, and he himself is in uniform, a sword at his side, walking to and fro. They bow reverently, with great humility. He returns the salute, but says nothing." Such is the reward of his justice to the red men. God be thanked for such a man.—*Theodore Parker.*

A Leaf from Washington's Diary.

3. "March 23d. Rained till about 2 o'clock and then cleared up, when we were greatly surprised at the sight of more than thirty Indians coming from war with only one scalp. We had some liquor with us, of which we gave them a part. This, elevating their spirit, put them in the humor of dancing. We then had a war dance. After clearing a large space and making a great fire in the middle, the men seated themselves around it and the speaker made a grand speech, telling them in what manner they were to dance. After he had finished, the best dancer jumped up, as one awakened from a sleep, and ran and jumped about the ring in a most comical manner. He was followed by the rest. Then began their music, which was performed with a pot half full of water and a deer skin stretched tight over it, and a gourd with some shot in it to rattle, and a piece of horse's tail tied to it to make it look fine. One person kept rattling and another drumming all the while they were dancing."—Written when he was a surveyor at sixteen years of age.

Jefferson's Description.

4. His mind was great and powerful, without being of the very first order, as that of Newton or Bacon or Locke, and as far as he saw no judgment was sounder. It was slow in operation, sure in conclusion. He was incapable of fear, meeting personal danger with the calmest unconcern. Perhaps the strongest feature in his character was prudence, never acting until every circumstance, every consideration was maturely weighed, and when once decided going through with his purpose, whatever obstacles opposed. His integrity was most pure, and his justice the most inflexible I have ever known.—*A Letter to Walter Jones in* 1814.

TRIBUTES TO WASHINGTON.

1. First in peace, first in war, first in the hearts of his countrymen.—*Henry Lee.*

2. Washington is to my mind the purest figure in history.—*William E. Gladstone.*

3. I am not surprised at what George has done, for he was always a good boy.—*Mary Washington, his mother.*

4. Here indeed is a character to admire; a life without a stain, a fame without a flaw.—*William M. Thackeray.*

5. Among the world of dreamers he was the only one whose vision in the slightest degree approached the great realities of the future.—*Edward Everett Hale.*

6.

He lives, ever lives in the hearts of the free,
The wings of his fame spread across the sea;
He lives where the banner of freedom's unfurled,
The pride of his country, the wealth of the world.
—*Alfred Tennyson.*

7. The more clearly Washington's teaching and example are understood, the more faithfully they are followed, the purer, the stronger, the more glorious will this Republic become.—*Carl Schurz.*

8. Washington was the only man in the United States who possessed the confidence of all. There was no other man who was considered anything more than a party leader. The whole of his character was in its mass perfect, in nothing bad, in a few points indifferent. And it may be truly said that never did nature and fortune combine more perfectly to make a man great, and to place him in the same constellation with whatever worthies have merited from man an everlasting remembrance.—*Thomas Jefferson.*

9. We are met to celebrate the one hundred and tenth anniversary of the birthday of Washington.

Washington is the mightiest name on earth, long since mightiest in the cause of civil liberty, still mightiest in the cause of moral reformation.

On that name a eulogy is expected. It cannot be. To add brightness to the sun or glory to the name of Washington is alike impossible. Let none attempt it.

In solmen awe pronounce the name, and, in its naked splendor, leave it shining on.—*Abraham Lincoln.*

10. There is Franklin, with his first proposal of Continental union. There is James Otis, with his great argument against Writs of Assistance, and Samuel Adams, with his inexorable demand for the removal of the British regiment from Boston. There is Quincy, and there is Warren, the protomartyr of Bunker Hill. There is Jefferson, with the Declaration of Independence fresh from his pen, and John Adams close at his side. There are Hamilton and Madison and Jay bringing forward the Constitution; but, towering above them all is Washington, the consummate commander, the incomparable President, the world-renowned patriot.—*Robert C. Winthrop.*

DECLAMATIONS ON WASHINGTON.

The Twenty-Second of February.

Gentlemen, a most auspicious omen salutes and cheers us, this day. This day is the anniversay of the birth of Washington. Washington's Birthday is celebrated from one end of this land to the other. The whole atmosphere of the country is this day redolent of his principles—the hills, the rocks, the groves, the vales, and the rivers shout their praises,and resound with his fame. All the good, whether learned or unlearned, high or low, rich or poor, feel this day that there is one treasure common to them all; and that is the fame of Washington. They all recount his deeds, ponder over his principles and teachings, and resolve to be more and more guided by them in the future.

To the old and the young, to all born in this land, and to all whose preferences have led them to make it the home of their adoption, Washington is an exhilirating theme. Americans are proud of his character; all exiles from foreign shores are eager to participate in admiration of him; and it is true that he is, this day, here, everywhere, all over the world, more an object of regard than on any former day since his birth.

Gentlemen, by his example, and under the guidance of his precepts, will we and our children uphold the Constitution. Under his military leadership, our fathers conquered their ancient enemies; and, under the outspread banner of his political and constitutional principles, will we conquer now. To that standard we shall adhere and uphold it through evil report and good report. We will sustain it and meet death if it come; we will ever encounter and defeat error by day and by night, in light or in darkness—thick darkness—if it come, till

"Danger's troubled night is o'er,
And the star of peace return."

—*Daniel Webster.*

Washington's True Attributes.

It was not solid information or sound judgment, or even the rare combination of surpassing modesty and valor, great as these qualities are, which gave Washington his hold on the regard, respect, and confidence of the American people. I hazard nothing in saying that it was the high moral elements of his character, which imparted to it its preponderating force. "Labor to keep alive in your breast the little spark of celestial fire, conscience," was one of a series of maxims which he framed or copied for his own use, when a boy. He kept alive that spark. He made it shine before men. He kindled it into a flame which illumined his whole life. No occasion was so momentous, no circumstances were so minute as to absolve him from following its guiding ray.

Who ever thinks of Washington as a mere politician? Who ever associates him with the petty arts and pitiful intrigues of partisan office-seekers or partisan office-holders? Who ever pictures him canvassing for votes, dealing out prescription, or doling out patronage?

And there was as little of the vulgar hero about him, as there was of the mere politician. At the head of a victorious army, of which he was the idol —an army too often provoked to the very verge of mutiny, by the neglect of an inefficient government—we find him the constant counselor of subordination and submission to the civil authority. With the sword of a conqueror at his side, we find him the unceasing advocate of peace. Repeatedly invested with more than the power of a Roman Dictator, we see him receiving that power with reluctance, employing it with the utmost moderation, and eagerly embracing the earliest opportunity to resign it The offer of a crown could not, did not tempt him, for an instant, from his allegiance to liberty. He rejected it with indignation and abhorrence, and proceeded to devote all his energies, and all his influence, all his popularity, and all his ability to the establishment of that republican system of which he was from first to last the un-

compromising advocate, and with the ultimate success of which he believed the best interests of America and of the world were inseperably connected.

It is thus that in contemplating the character of Washington, the offices which he held, the acts which he performed, his success as a statesman, his trumphs as a soldier almost fade from our sight. It is not the Washington of the Delaware or the Brandywine, of Germantown, or of Monmouth; it is not Washington the President of the Convention, or the President of the Republic, which we admire. We cast our eyes over his life, not to be dazzled by the meteoric luster of particular passages, but to behold its whole pathway radiant, radiant everywhere with the true glory of a just, conscientious, consummate man! Of him we feel it to be no exaggeration to say that

" . . . all the ends he aimed at
Were his country's, his God's and truth's."

Of him we feel it to be an exaggeration to say that he stands upon the page of history, the great modern illustration and example of that exquisite and divine precept, which fell from the lips of the dying monarch of Israel—

"He that ruleth over men must be just, ruling in the fear of God; and he shall be as the light of the morning, when the sun riseth—even a morning without clouds."—*Robert C. Winthrop.*

RECITATIONS.

Washington's Birthday.

(Lines written on being asked by a little boy for something to speak at school on Washington's Birthday.)

The bells of Mount Vernon are ringing to-day?
And what say their melodious numbers
To the flag blooming air? List, what do they say?
"The fame of the hero ne'er slumbers!"

The world's monument stands the Potomac beside,
And what says the shaft to the river?
"When the hero has lived for his country, and died,
Death crowns him a hero forever."

The bards crown the heroes and children rehearse
The songs that give heroes to story,
And what say the bards to the children? "No verse
Can yet measure Washington's glory.

"For Freedom outlives the old crowns of the earth,
And Freedom shall triumph forever,
And Time must long wait the true song of his birth
Who sleeps by the beautiful river."

—*Hezekiah Butterworth.*

WASHINGTON.

Land of the West! though passing brief the record of thine age,
Thou hast a name that darkens all on history's wide page.
Let all the blasts of fame ring out—thine shall be loudest far;
Let others boast their satellites—though hast the planet star.
Thou hast a name whose characters of light shall ne'er depart
'Tis stamp'd upon the dullest brain and warms the coldest heart—
A war-cry fit for any land where freedom's to be won;
Land of the West! it stands alone—it is thy WASHINGTON.

Rome had its Caesar, great and brave; but stain was on his wreath;
He lived the heartless conqueror, and died the tyrant's death.
France had its eagle; but his wings, though lofty they might soar,
Were spread in false ambition's flight, and dipped in murder's gore.
Those hero-gods, whose mighty sway would fain have chained the waves;
Who fleshed their blades with tiger zeal, to make a world of slaves;
Who, though their kindred barred the path, still fiercely waded on;
Oh, where shall be *their* "glory" by the side of WASHINGTON!

He fought, but not with love of strife; he struck, but to defend;
And ere he turned a people's foe, he sought to be a friend.
He strove to keep his country's right by reason's gentle word,
And sighed when fell injustice threw the challenge—sword by sword;
He stood the firm, the calm, the wise, the patriot and sage;
He showed no deep avenging hate—no burst of despot rage;
He stood for Liberty and Truth, and dauntlessly led on,
Till shouts of victory gave forth the name of WASHINGTON.

No car of trumph bore him through a city filled with grief;
No groaning captives at the wheels proclaimed him victor chief;
He broke the gyves of slavery, with strong and high disdain,
And forged no scepter from the links, when he had crushed the chain.
He saved his land; but did not lay his soldier trappings down,
To change them for the regal vest, and "don" a kingly crown
Fame was too earnest in her joy—too proud of such a son—
To let a robe and title mask a noble WASHINGTON!

England, my heart is truly thine, my loved, my native earth;
The land that holds a mother's grave, and gave that mother birth.
Oh, keenly sad would be the fate that thrust me from thy shore,
And faltering my breath that sighed, "Farewell for evermore!"
But did I meet such adverse lot, I would not seek to dwell
Where olden heroes wrought the deeds for Homer's songs to tell.
"Away, thou gallant ship!" I'd cry, "and bear me swiftly on;
But bear me from my own fair land to that of WASHINGTON."

—*Eliza Cook.*

JAMES RUSSELL LOWELL.

February 22, 1819—August 12, 1891.

(*This material on Lowell is quoted from an address delivered by George William Curtis, Washington's Birthday, 1892. The address was delivered before the Brooklyn Institute of Arts and Sciences in Association Hall, Brooklyn, N. Y.*)

The birthday of Washington not only recalls a great historic figure, but it reminds us of the quality of great citizenship. His career is at once an inspiration and rebuke. Whatever is lofty, fair and patriotic in public conduct instinctively we call by his name; whatever is base, selfish and unworthy is shamed by the lustre of his life. Like the flaming sword turning every way that guarded the gate of Paradise, Washington's example is the beacon shining at the opening of our annals and lighting the path of our national life. But the service that makes great citizenship is as various as genius and temperament.

Washington's conduct of the war was

not more valuable to the country than his organization of the government, and it was not his special talent but his character that made both of those services possible.

It was not only Washington the soldier and the statesman, but Washington the citizen, whom we chiefly remember. Americans are accused of making an excellent and patriotic gentleman a mythological hero and demigod. But what mythological hero or demigod is a figure so fair? We say nothing of him to-day that was not said by those who saw and knew him, and in phrases more glowing than ours, and the concentrated light of a hundred years discloses nothing to mar the nobility of the incomparable man.

It was while the personal recollections and impressions of him were still fresh, while, as Lowell said, "Boston was not yet a city and Cambridge was still a country village," that Lowell was born in Cambridge seventy-three years ago to-day. His birth on Washington's birthday seems to be a happy coincidence, because each is so admirable an illustration of the two forces whose union has made America. Massachusetts and Virginia, although of very different origin and character, were the two colonial leaders.

The house in which Lowell was born has long been known as Elmwood, a stately house embowered in lofty trees, still full, in their season, of singing birds. It is one of the fine old mansions of which a few yet linger in the neighborhood of Boston, and it still retains its dignity of aspect, but a dignity somewhat impaired by the encroaching advance of the city and of the architectural taste of a later day. The house has its traditions, for it was built before the Revolution by the last loyal Lieutenant-Governor of Massachusetts, whose stout allegiance to the British Crown was never shaken, and who left New England with regret when New England, also not without natural filial regret, left the British Empire. It is a legend of Elmwood that Washington was once its guest, and after the Revolution it was owned by Elbridge Gerry, a signer of the Declaration of Independence, who occupied it when he was Vice-President.

Not far away from Elmwood, Lowell's life-long home, is the house which is doubly renowned as the headquarters of Washington and the home of Longfellow. Nearer the colleges stands the branching elm—twin heir with the Charter Oak, of patriotic story—under which Washington took command of the Revolutionary army. Indeed, Cambridge is all Revolutionary ground and rich with Revolutionary tradition. Lexington common is but six miles away. Along the West Cambridge road galloped Paul Revere to Concord. Yonder marched the militia to Bunker Hill. Here were the quarters in which Burgoyne's redcoats were lodged after the surrender at Saratoga. But peaceful among the storied scenes of war stands the university, benign mother of educated New England, coeval with the Puritan settlement which has given the master impulse to American civilization.

Lowell entered college at fifteen and graduated at nineteen, in 1838. His literary taste and talent were already evident, for in literature even then he was an accomplished student, and he wa sthe poet of his class, although at the close of his last year he was rusticated at Concord, a happy exile, where he saw Emerson, and probably Henry Thoreau and Margaret Fuller, who was often a guest in Emerson's house.

During these years Lowell greatly impressed his college comrades, although no adequate literary record of the promise which they felt survives. When he left college and studied law the range of his reading was already extraordinarily large, and his observation of nature singularly active and comprehensive. His mind and memory like the Green Vaults of Dresden were rich with treasures accumulated from every source But his earliest songs

echoed the melodies of other singers and foretold no fame. They were the confused murmuring of the birds while the dawn is deepening into the day.

One of his most intimate friends, the late Charles F. Briggs, for many years a citizen of Brooklyn, and known in the literary New York of forty years ago as Harry Franco, said to him with fine insight, that Lowell was naturally a politician, but a politician like Milton, a man that is to say with an instinctive grasp of the higher politics, of the duties and relations of the citizens to his country, and of those moral principles which are essential to the welfare of the States as oxygen to the breath of human life.

Lowell was an intense New Englander. There was no finer figure of the higher Puritan type. The New England soil from which he sprang was precious to him. The New England legend, the New England language, New England character and achievement, were all his delight and familiar study. Nobody who could adequately depict the Yankee ever knew him as Lowell knew him, for he was at heart the Yankee that he drew. The Yankee early became the distinctive represntative of America. He is the Uncle Sam of comedy and caricature. Even the sweet-souled Irving could not resist the universal laugh, and gave it fresh occasion by his portrait of Ichabod Crane.

Literature was his pursuit, but patriotism was his passion. He resented the least imputation upon the ideal American, and nothing was finer than his instinctive scorn for pinchbeck patriotism which brags and boasts and swaggers, insisting that bigness is greatness and vulgarity simplicity, and the will of a majority the moral law. No man perceived more shrewdly the American readiness of resource, the Yankee goodnature, and the national rectitude. But he was not satisfied with an easy standard. To him the best, not the thriftiest, was most truly American. Lowell held that of all men the American should be master of his boundless material resources, not their slave, worthy of his unequal opportunities, not the sycophant of his fellow Americans nor the victim of national conceit. No man rejoiced more deeply over our great achievements or celebrated them with ampler or prouder praise.

So varied, full, and fair is the story of Lowell's life, and such service, to the mind and heart and character of his country, we commemorate on this hallowed day. In the golden morning of our literature and national life there is no more fascinating and inspiring figure. His literary achievement, his patriotic distinction, and his ennobling influence upon the character and lives of generous American youth, gave him at last power to speak with more authority than any living American for the intellect and conscience of America. Upon those who knew him well, so profound was the impression of his resource and power that these words must seem to be mere eulogy. All that he did was but the hint of this superb affluence, this comprehensive grasp; the overflow of an exhaustless supply, so that it seemed to be only incidental, not his life's business. Even his literary production was impromptu. "Sir Launfal" was the work of two days. "The Fable for Critics" was an amusement amid severer studies. The discourse on "Democracy" was largely written upon the way to Birmingham. Of no man could it be said more trul ythat

"Half his strength he put not forth."

But that must be always the impression of men of so large a mold and of such public service that they may be properly commemorated on this anniversary.

QUOTATIONS FROM LOWELL.

1. Be noble, and the nobleness that lies
   In other men, sleeping, but never dead,
   Shall rise in majesty to meet thine own.

2. Who deemeth small things beneath
his state,
Will be too small for what is really
great.

3. We do not know how cheap the seeds of hapiness are or we would scatter them oftener.

4. Be noble! And the nobleness that
lies
In other men, sleeping but never
dead,
Will rise in majesty to meet thine
own.

5. Truly there is a tide in the affairs of men; but there is no gulf stream setting forever in one direction.

6. Life is a leaf of paper white,
Whereon each one of us may write
His word or two; and then comes
night,
Though thou have time
But for a line, be that sublime;
Not failure, but low aim is crime.

7. There is after all something in those trifles that friends bestow upon each other which is an unfailing indication of the place the giver holds in the affections. Trifles they may be; but it is by such that character and disposition are oftenest revealed.

8. Once to every man and nation comes the moment to decide.
In the strife of truth with falsehood for the good or evil side;
Some great cause, God's new Messiah, offering each the bloom or blight,
And the choice goes by forever, 'twixt the darkness and that light.

9. Beauty and Truth and all that these
contain,
Drop not like ripened fruit about
out feet;
We climb to them through years of
sweat and pain;
Without long struggle, none did
e'en attain.

10. Is true freedom but to break
Fetters for our own dear sake,
And with leathern hearts forget
That we owe mankind a debt?
No! True freedom is to share
All the chains our brothers wear,
And with heart and hand to be
Earnest to make others free

They are slaves who fear to speak
For the fallen and the weak;
They are slaves who will not choose
Hatred, scoffing, and abuse,
Rather than in slience shrink
From the truth they needs must
think;
They are slaves who dare not be
In the right with two or three.

APPROPRIATE POETICAL SELECTIONS.

The Finding of the Lyre.
The Present Crisis.
The Changeling.
Auf Wiedersehen.
The Vision of Sir Launfal.

THE FIRST SNOW-FALL.

The snow had begun in the gloaming,
And busily all the night
Had been heaping field and highway
With a silence deep and white.

Every pine and fir and hemlock
Wore ermine too dear for an earl,
And the poorest twig on the elm-tree
Was ridged inch deep with pearl.

From sheds new-roofed with Carrara
Came Chanticleer's muffled crow,
The stiff rails softened to swan's-down
And still fluttered down the snow.

I stood and watched by the window
The noiseless work of the sky,
And the sudden flurries of snow-birds,
Like brown leaves whirling by.

I thought of a mound in sweet Auburn,
Where a little headstone stood;
How the flakes were folding it gently,
As did robins the babes in the wood.

Up spoke our own little Mabel,
Saying: "Father, who makes it snow?"
And I told of the good All-father
Who cares for us here below.

Again I looked at the snow-fall,
And thought of the laden sky
That arched o'er our first great sorrow,
When that mound was heaped so high.

I remembered the gradual patience
That fell from that cloud like snow,
Flake by flake, healing and hiding
The scar that renewed our woe.

And again to the child I whispered,
"The snow that husheth all,
Darling, the merciful Father
Alone can make it fall!"

Then with eyes that saw not, I kissed her;
And she, kissing back, could not know
That my kiss was given to her sister,
Folded close under the deepening snow.

HENRY WADSWORTH LONGFELLOW.

February 27, 1807—March 24, 1882.

(*The material in this sketch of Longfellow is adapted from two standard works on American Literature. One is Abernathy's American Literature, published by Charles E. Merrill Co.; the other is Introduction to American Literature by Brander Matthews, published by American Book Company.*)

In the first ten years of the nineteenth century, there were born in New England five of the foremost authors of America. Emerson and Hawthorne were respectively four and three years older than Longfellow. Whittier and Holmes were respectively ten months and two years younger. As they grew up and began to write, and got to know one another, these authors became friends; and their friendship lasted with their lives. One after another they all gained fame; and although not the greatest of the five, perhaps, Longfellow was always the most popular. Not merely in the United States and Great Britain, but in Canada and Australia, and India, and wherever the English language is spoken, there were readers in plenty for the gentle, the manly, the beautiful verses of Longfellow.

His mothers' father had been a general in the Revolutionary army. His mother's brother (after whom he was named) had been an officer in the American navy, losing his life in Preble's attack on Tripoli. His father, once a member of Congress, was one of the leading lawyers of Portland. And it was in that pleasant Maine city that Henry Wadsworth Longfellow was born, on February 27, 1807. There he passed his childhood. There he got that liking for the sea, and for the ships, and for sailors, which was to give a salt-water savor to so many of his ballads. There, as he grew to boyhood, he browsed amid the books of his father's ample library, feeling his love for literature steadily growing.

In early childhood Longfellow showed the qualities that characterized his whole life, tenderness, gentleness, and refined taste. Having shot a robin one day, he was so grieved upon looking at the dead bird that he gave up that form of sport forever. Throughout his school days he showed a distaste for all rude sports. At seven years of age he was "half through his Latin grammar."

He was a schoolboy of twelve when the first numbers of Irving's "Sketch Book" appeared, and he read it "with ever-increasing wonder and delight, spellbound by its pleasant humor, its melancholy tenderness, its atmosphere of reverie." A few months before the "Sketch Book" began, Bryant had published his "Thanatopsis," and others of his earlier poems followed soon; so the schoolboy in Portland came under the influence of Bryant's poetry almost at the same time he felt the charm of Irving's prose. When he was only thirteen the young Longfellow began to write verses of his own, some of which were printed in the newspapers. He was only fourteen when he passed the entrance examinations of Bowdoin Col-

lege, where he was to have Hawthorne as a classmate.

Long before his college course was over he had made up his mind to become a man of letters. In his last year at Bowdoin, being then eighteen, he wrote to his father: "I most eagerly aspire after future eminence in literature; my whole soul burns ardently for it, and every earthly thought centers in it." But here, in America, in 1825, no man could hope to support himself by prose and verse.

Fortunately just then a professorship of modern languages was founded in Bowdoin, and the position was offered to Longfellow, with permission to spend several years in Europe fitting himself for his duties. He accepted eagerly; and his sojourn in France and Spain, in Italy, and Germany, made him master of the four great European languages with their marvelous literature. He studied hard, and wrote little while he was away. At last, in 1829, being then twenty-one, he returned to his native land, and settled down to teach his fellow-countrymen what he had learned abroad.

Toward the end of 1836 he took up his abode in Cambridge, where he was to reside for the rest of his life—for forty-five years. At Cambridge he became at once popular both in college and in society. Splendidly equipped for his work, a master of all the literary languages of Europe, he opened a new world to the students by bringing to them the rich treasures of Old World art, tradition, romance, and song. Under the charm of his refined personality, a new atmosphere of literary culture was created, which has given a transcendent fame to Cambridge, and her spiritual suburb, Boston. He took rooms, in 1857, in the Craigie house, celebrated as the headquarters of Washington, which was henceforth to be his home. Here, in Washington's chamber, he wrote "Hyperion" and "Voices of the Night," which were published in 1839. With the latter his fame as a poet began. This cherished little volume contained the "Psalm of Life," "Footsteps of Angels," "The Reaper and the Flowers," and other favorites, with his translations, and five of his college poems that he thought worthy of preservation. The early poems were devoted to nature, and echoed the voice of Bryant; in the others a deep-toned personal chord was sounded. Two years later appeared the striking ballads, "The Skeleton in Armor," and "The Wreck of the Hesperus," which established immediately Longfellow's superiority as a story-teller in verse. For strength, simplicity, and swiftness, these are among the few modern ballads that are worthy of comparison with the minstrelsy of old.

It was on March 15, 1882, when Longfellow had just celebrated his seventy-fifth birthday, that he penned the final lines of this final poem:—

> Out of the shadows of night
> The world rolls into light.
> It is daybreak everywhere.

The eighteenth was on a Saturday; and in the afternoon there came four schoolboys from Boston, who had asked permission to visit him. He showed them the view of the wharves from the window of his study, and with his customary kindness, he wrote his autograph in their albums. That night he was seized with pain; but he would not disturb the household until the morning. He lingered a week, and died on Friday, March 24, 1882. He was buried the next Sunday in Mount Auburn Cemetery, "under the gently falling snow."

Longfellow is the most pipular poet yet born in America; and if we can measure popular approval by the widespread sale of his successive volumes, he was probably the most popular poet of the English language in this country. Part of his popularity is due to his healthy mind, his calm spirit, his vigorous sympathy. His thought, though often deep, was never obsecure. His lyrics had always a grace that took the

ear with delight. They have a singing simplicity, caught, it may be, from the German lyrists, such as Uhland or Heine. This simplicity was the result of rare artistic repression; it was not due to any poverty of intellect.

Like Victor Hugo, in France, Longfellow in America was the poet of childhood. And as he understood the children, so he also sympathized with the poor, the toiling, the lowly—not looking down on them, but glorifying their labor, and declaring the necessity of it, and the nobility of work. He could make the barest life seen radiant with beauty. He had acquired the culture of all lands, but he understood also the message of his own country. He thought that the best that Europe could bring was none too good for the plain people of America. He was a true American, not only in his stalwart patriotism in the hour of trial, but in his loving acceptance of the doctrine of human equality, and in his belief and trust in his fellowman.

LONGFELLOW'S SENTIMENTS.

1. Be still sad heart, and cease repining
   Behind the clouds is the sun still shining.
2. However things may seem, no evil thing is success, and no good thing is failure.
3. No one is so accursed by fate,
   No one so utterly desolate,
   But some heart, though unknown,
   Responds unto his own.
4. We see but dimly through the mists and vapors;
   Amid these earthly damps;
   What seem to us but sad, funereal tapers,
   May be heaven's distant lamps.
5. All are architects of fate,
   Working in these walls of time;
   Some with massive deeds and great,
   Some with ornaments of rhyme.
6. Like Dian's kiss, unmasked, unsought,
   Love gives itself, but is not bought.
7. Nothing useless is, or low;
   Each thing in its place is best;
   And what seems but idle show
   Strengthens and supports the rest.
8. O fear not in a world like this,
   And thou shalt know ere long,
   Know how sublime a thing it is
   To suffer and be strong.

RECITATIONS.

The material is so familiar and so easily secured that it is not necessary to reproduce the poems here.

LINCOLN PROGRAM.

In every school there are some teachers planning appropriate exercises for Lincoln's birthday without waiting for official orders. Such special exercises are worth a great deal more than the other subject-matter that is displaced for a day to make room for the rhetorical program. The difficulty in getting material is an obstacle greater than the disturbance of the daily scedule. But this difficulty is easily overcome by consulting the McEvoy Magazine for January, 1912. As that Lincoln Number is owned by many of our readers, the material will not be reprinted in this issue. Copies of that number are for sale at 25 cents, postpaid.

The folowing outline of the contents of the Lincoln Number suggests a suitable program:

1. Lincoln's Story of His Life. A complete, fascinating autobiography arranged in twenty-four parts to suit the size of schools and capacity of pupils.

2. Chronological List of Events in the Life of Abraham Lincoln. A condensed presentation of important facts to unify the work of the day. Excellent for subsequent use in history, composition, etc.

3. Explanation of Historical Events.

Sherman's March to the Sea.
National Cemetery at Gettysburg.
Sheridan's Ride.

4. LINCOLN AND HIS "LIFE OF WASHINGTON." A dramatization by Emma A. Hulse, P. S. 17, Queens. Suitable for primary grades.

5. GEMS FROM LINCOLN. Seventeen quotations worthy of memorizing by every boy and girl in America.

6. LINCOLN'S SYMPATHY.

The Loss of Tad's Nanny Goat.
In Behalf of a Widowed Mother.
The Case of a Man Named King.
A Mother's Sacrifice on the Altar of Freedom (Mrs. Bixby).
A Soldier Pardoned.

7. TRIBUTES. Fourteen opinions by eminent men and women.

Lincoln's Mother	Emerson
Dawes	Garfield
New	Douglass
Peter Cooper	Lincoln's Step-mother
Grant	
Simpson	Ingersoll

8. EULOGIES. Admirable for brief declarations of class exercises. Selections from

Simpson	Ingersoll
Thurston	Dana
McKinley	Washington Star
Lowell	

9. LINCOLN, THE ORATOR.

One way to become proficient in public speaking is to study and imitate the masters of oratory. The Gettysburg Speech is considered a model but that is not the only model Lincoln has left us. In all of his writings and addresses, the power of simple words should appeal to boys and girls who wish to know how to write and speak. Lincoln's explanation of his own use of language is fascinating reading for pupils. Here you have that explanation.

10. THE GETTYSBURG SPEECH.

Recitations.

11. OH! WHY SHOULD THE SPIRIT OF MORTALS BE PROUD?

12. DRAFTED.

13. THE GEORGIA VOLUNTEER.

14. THE BATTLE FLAG AT SHENANDOAH.

15. SHERIDAN'S RIDE.

16. SHERMAN'S MARCH TO THE SEA.

17. DEATH OF LINCOLN.—*Bryant.*

18. "THE FIRST AMERICAN."—*Lowell.*

Declamations.

19. THE BATTLE OF GETTYSBURG.—*Briggs.*

20. FOES UNITED IN DEATH.—*Abbott.*

21. THE SOUTHERN SOLDIER.—*Grady.*

22. HISTORY'S FOREMOST MEN—*Roosevelt.*

23. LINCOLN, A NEW AMERICAN TYPE. *Miller.*

24. GRANT AND MCKINLEY.—*Miller.*

25. WATTERSON ON LINCOLN.

26. THE STARS AND STRIPES.

Composition

in the

Upper Grammar Grades

By CONSTANCE W. FULLER and E. LE ROY PIPER

P. S. 103, Brooklyn

This article, the first of a series, includes the Introduction, General Methods of Presentation, and the 8A Outline.

INTRODUCTION.

A perusal of the Course of Study shows that the preponderance of composition work in the upper grades lies in the "study, reproduction and imitation of specimens of narration, description and exposition." Volumes have been written on theory but there is a marked scarcity of available models and suitable outlines.

The greatest difficulty in this branch of English is, without doubt, the selection of these "specimens" and the preparation of "topical outlines for similar compositions". The series, of which this is the initial article, is an attempt to supply this material together with practical suggestions in reference to preparation with the view of eliminating as far as possible that puzzling question, "What shall we write on this week?"

It is not intended that the term outlines should be taken as fixed plans, but rather as magazines of material, through which, by selection and variation, the mechanical work of teaching composition may be reduced to a minimum.

GENERAL METHODS OF PRESENTATION.

The Model.

At least one model should be studied exhaustively each month and others read incidentally. Every child should have a copy during the intensive study. For this reason, select as much as possible from the sets of books in the grade. When the selection is not available to all, the mimeograph solves the problem, sets once made being capable of use for several terms.

In the Syllabus of 7A are valuable suggestions on study of models. References and selections for such study will be found in the various term-plans.

Choice of Subjects.

Success or failure in composition work often depends upon the selection of suitable subjects. Topics should be chosen with distinct aims in mind. Above all, do not go too far afield for subjects; keep well within the narrow scope of the child's experience and comprehension. This is the only way to engage the attention and hold the interest of the pupil. Assign topics requiring enough research to develop the habit of investigation and to give practice in gathering and selecting material. Correlation with other subjects of the grade tends to stimulate the interest and helps in unifying the different studies. Compositions on daily happenings are of great practical value on account of encouraging the reading of newspapers and magazines.

Preparation.

After the topic has been decided, various methods of preparation suggest themselves. The teacher may

read to class different selections bearing on the subject, specific references may be given for home reading, or children may be required to gather information unassisted. The method varies with the difficulty of the subject. Usually a combination of the methods will give best results. A little praise to pupils who unearth new and interesting ideas on the topics will go far toward fostering the habit of investigation.

Discussion.

The next step is a general discussion of the mass of facts gathered. The pupils should be led to recognize the relative importance of the many details and their consequent place in the composition. This ability to select the essential and reject the unessential is most important. These talks in preparation for writing help the child in forming an impression of the subject as a whole, and they also furnish, through natural and interested conversation, an opportunity for developing that most necessary power—the ability to talk.

The Outline.

The discussion leads naturally to the building of the outline. The importance of this skeleton-work of composition should be vividly impressed upon the pupils. Show them that this framework contains the main thoughts and that, by building upon it, we round out the finished body of the composition. A few words about the use of outlines by speakers and writers will help in showing recognized value of the outline as an aid in the logical presentation of thought.

Probably the greatest difficulty encountered by the child in composition work is getting started. In the development of the outline the first aim must be a natural introduction, an opening wedge leading up to the main body of information following. Lead pupils to see that we must not break into the subject too suddenly. An example will show the idea. Suppose the subject to be one in narration—**A Day's Fishing.** Where should this begin? The average boy starts right off for the fishing grounds, the bright boy prepares the tackles and catches bait, but the exceptional boy gives first the events leading to the decision to try fishing. He starts something in this way: "One Friday afternoon as I was returning home from school wondering how I would spend Saturday, Jack, my chum, rushed up to me with the news that the perch were biting in the lake back of the chestnut woods. As we were both very fond of fishing, we decided then and there to try our luck." Here we have an introduction that leads naturally to the subject. The same care is necessary in ending the composition so that the close will not be so abrupt as to leave the reader wondering why it is all over.

The importance of the outline cannot be overstimated. When it is properly constructed, it is a sure guide to systematic and logical arrangement and thus to unity and continuity of expression. As work goes on, pupils should develop their own outlines from their home reading.

Writing the Composition.

Enough has been said under **Discussion** and **Outline** in regard to selection and arrangement of subject-matter. A few suggestions concerning the mechanical side of composition may be of use.

Work constantly for good penmanship, looking toward legibility, regularity and speed. Insist upon application of the rules of capitalization and punctuation. Use composition as practical means of teaching spelling, for here are the words that the pupils are actually using. Composition also affords an excellent opportunity for enriching the vocabulary. Here too is the practical side of grammar; lead pupils to construct sentences according to laws so that grammar becomes a real help and

not a mass of uninteresting facts. That "the sentence is the expression of thought in words" is not in composition a mere definition, but a constant aid in putting thought into language. Then, too, the idea of the paragraph should be developed as a collection of sentences all bearing on one main thought.

Reading and Criticism.

Composition is interesting to pupil only when he feels that he has information to impart and that someone wants this information. Compositions should, therefore, be read aloud in class by the writers. Criticisms are then in order, first by pupils, then by teacher. This class discussion goes far toward correcting common errors and stimulating interest. Good results along this line may be obtained by supplying pupils with paper and suggesting that they jot down criticisms as the composition is being read. The reader then remodels his work along the lines of approved criticisms.

Since, under this plan, only comparatively few compositions can be read during one lesson, it is not advisable to follow this method at all times. In order to give more pupils opportunity to read, the criticism should be omitted during some of the composition reading periods.

Correction.

Simple systems of correction are likely to be more effective. Whatever plan is used, see that the pupils are conversant with it. A chart hung in the room is an easy way to make the symbols familiar to the pupils. A code of marking is suggested.

CHART FOR CORRECTION OF COMPOSITIONS.

s=spelling
p=punctuation
c=capitalization
w=choice of words
?=lack of clearness, ambiguous
v=lack of variety
x=facts incorrect
¶=paragraph
g=wrong grammatical construction.
√=omit
Λ=left out
tr=transpose.

Other symbols may be added as necessity demands.

In marking compositions, place signs in margin and check or underscore errors in the text.

The correction of entire sets of compositions by the teacher requires more time than the results justify. The burden is shifted from the pupil to the teacher. As one aim is to minimize dependence of pupil on teacher, it is advisable to encourage pupils to share activity in class by discussing common errors, by forming the habit of constructing sentences in the mind before writing, and by critically examining and revising the sentences after writing. This plan of mutual effort becomes more effective when classes are divided into groups so that all the compositions of one group may be corrected during one lesson period.

Rewriting.

Care, accuracy and neatness are prime factors in the production of the finished composition. Pupils should be led to see that the final paper handed in is to a great extent an index of character, since men are usually judged by their deeds.

It is not advisable to have all the compositions rewritten. The time would be better devoted to writing another composition or to an oral discussion of the general value of composition or the special satisfaction in having the power to express ourselves clearly on any subject under discussion.

MISCELLANEOUS SUGGESTIONS

Section Plan.

The division of the class into two sections is often helpful in composition work. One section may write while the other section works with the teacher in correcting the composition of the previous week. This work with a smaller number of pupils gives more opportunity to correct individual as well as general errors. Many will criticise this plan on the ground that the work of correcting will distract the attention of those writing. This may be true to some extent at first, but, on the other hand, is not the power of concentration a very important one and is not this an admirable way of developing it?

The two-division plan is excellent in letter writing also. Have sections exchange papers, and, imagining themselves the recipients, write suitable replies. In this way the work is made real, and reality always means better results.

Twenty Minute Topics.

Announce some familiar topic. Have children sit quiet for five minutes and think. Then allow them fifteen minutes for writing.

This device is valuable in developing originality of thought and fluency of expression. It also cultivates judgment in apportioning time according to importance. The remainder of the period may be passed in reading newspaper clippings, magazine articles, short poems, selections from history or geography, experiments in science, as all furnish excellent material for such work.

The Speed Drill.

This is a variation of the preceding device with a slightly different aim. Assign familiar topic. Give five or ten minutes for writing. Hold pupils merely to clear, simple English. Exercises of this kind accomplish much in doing away with the wasteful habits of indecision and dallying.

Use of Pictures.

One of the best aids in composition work is a collection of pictures. These stimulate the imagination of the child and at the same time make the subject real. Illustrations cut from discarded books, such as histories and geographies, may be used. Newspapers and magazines furnish much pictorial material for composition. In the course of a term a teacher can readily accumulate a great variety of useful and inspiring pictures which will make the work of the following term easier and more productive.

Term Essay.

It is suggested that in the eighth year the children write two term essays, a mid-term and a final. These essays should require considerable preparation by the pupils, outside of school hours, but with the aid of suggestions from the teacher. Such essays should be the children's best work.

Conclusion.

A few words on composition work in general may be useful. Make the work real and natural. Appeal to the play instinct of the child. Have the pupils imagine themselves actively interested in all topics given. The spirit of "let us play" and "put yourself in this place" is of inestimable value.

While this introduction may savor somewhat of theory, the devices and suggestions, as actual use has shown, are practical, and will, it is believed, be of use to many teachers in getting results in this most difficult of subjects—composition.

8A OUTLINE.

General Plan.

The outline provides for eight composition lessons per month: four to be devoted to writing, four to reading and correction. Any remaining periods may be given to dictation and to common grammatical errors.

All models mentioned, except those in Maxwell and Johnston's School Composition, will be found at the end of the outline.

First Month. Narration.

First Week. The Paragraph.

I. MODELS.

1. Tom and the Fairy—The Water Babies.
2. A Summer Holiday—Maxwell and Johnston's School Composition, p. 145.
3. Recess—Being a Boy.
4. Driving the Oxen—Being a Boy.
5. Fishing—Being a Boy.

II. TOPICS.

1. Write one paragraph on

MY NOON HOUR.

2. Write two paragraphs on

MY FAVORITE OCCUPATION.

a. What it is.
b. What I have done lately.

3. Write two paragraphs on

MYSELF.

a. My appearance.
b. My taste.

4. Write two paragraphs on

A DOLLAR BILL.

a. Where I got it.
b. What I am going to do with it.

Second Week. Special Attention to Paragraphs.

MODELS.

1. The Teapot—Maxwell and Johnston, p. 99.
2. Gluck and the Little Old Gentleman—M. and J., p. 92.
3. The Little Old Book — Sketch Book.
4. Tom and the Truncheon — The Water Babies.

TOPICS.

I. A boy finds a five dollar gold piece. What does he do?

1. Introduction.
   a. When, where, and how found.
   b. His decision.
2. Body.
   a. To whom he shows his find.
   b. What they think about it.
   c. What they decide to do.
   d. How they do it.
3. Conclusion.
   a. The results of the find.

SUGGESTIONS.

1. Let children calculate the probable number of paragraphs.
2. Explain.
   a. The necessity for keeping the story in the same person in which it was begun (first or third).
   b. The value of dialogue in adding interest.
3. Children suggest and teacher writes upon the board a list of expressions such as

he said	was the answer
he replied	was the suggestion
he asked	he interrupted
exclaimed—	remarked—
	queried—.

This gives variety.

4. Teach the use of the expressions "the former," "the latter."

II. A BIRTHDAY GIFT. (Tool Chest or Work Basket).

1. Introduction.
   a. By whom given.
   b. When it arrived and how.
2. Body.
   a. Its description.
   b. Plans for its use.
3. Conclusion.
   a. Results of these plans. (Success or failure).
   b. Future plans.

SUGGESTIONS.

1. Written in first or third person.
2. Children make lists of words likely to be used.

Chest.		Basket.	
oak	hinges	wood	trays
trays	clasp	lining	dainty
saw	compartments	cover	embossed
plane	steel	hinges	thimble
chisel	temper	drawer	scissors
awl	keen	lining	needles
		initials	tape
		thread	emery

III. THE ADVENTURE OF A DIME.

1. Introduction.
   a. Present situation and condition.
2. Body.
   a. Adventure.
3. Conclusion.
   a. Present state of mind.
   b. Future prospects.

SUGGESTIONS.

1. Children make list of possible happenings.

Paid out	Paid for—.
Bank	Given to beggar.
Lost	New owner.
Found	Pocket piece.
Talk with a dollar bill.	
Talk with other change.	

2. Talk about "tone." It may be a jolly, sulky, or cynical dime; a young and boastful dime; an old dime. peaceful, sad, or bitter.

3. The dime's story may begin at the beginning of its life or at its close (a retrospect).

IV. HOW—EARNED TEN DOLLARS FOR THE CHURCH FAIR.

1. Introduction.
   a. The purpose of the fair.
   b. The pledge given by the children.
2. Body.
   a. Size of the community.
   b. Opportunity for earning money.
   c. ——'s plan and how it succeeded.
      (1) Preparation
      (2) Amusing incidents
      (3) Failures (if any).
3. Conclusion.
   a. The last evening of the fair.
   b. The various reports from the children.
   c. The amount raised and what it has accomplished.

THIRD WEEK.

Continued Attention to Paragraphs.

I. A TRIP TO NIAGARA FALLS.

1. Introduction.
   a. The fame of the Falls.
   b. Distance from the home city.
   c. Route to the Falls.
2. Body.
   a. The start.
   b. Fellow passengers.
   c. Scenery.
   d. Incidents of the trip.
   e. Arrival at Niagara.
   f. Roar of the Falls.
   g. First view (majesty).
   h. Shape.
      (1) American Falls.
      (3) Canadian Falls.
   i. Bridges.
   j. The Maid of the Mist.
   k. Going under the falls.
   l. Uses of water power.
3. Conclusion.
   a. The effect of the Falls upon the memory (grandeur, etc.).

SUGGESTIONS.

1. Material.
   a. New York supplement to any good geography.
   b. Pictures of the Falls.
   c. Trace route on time table of New York Central Railroad.

2. Topics a, b c, and d in the body of the composition may be disposed of in a few sentences. They are merely references.

II. A TRIP ACROSS THE CONTINENT.

1. Introduction.
   a. The bustle in the depot.
   b. The start.
   c. The train.
      (1) Sleepers.
      (2) Dining Car.
      (3) Observation Car, etc.
2. Body.
   a. Scenery through New York and Pennsylvania.
   b. Crossing the Allegheny Mts.
   c. The great central valley.
      (1) Fertile plains east of the Mississippi.
      (2) Great manufacturing cities.
      (3) Crossing the Mississippi.
      (4) The prairies.
   d. The Rocky Mountains.

e. The Pacific slope.

3. Conclusion.

a. Weariness after five days on the train.

b. Delight at arrival at end of journey.

SUGGESTIONS.

1. Useful models.

a. The Lady of the Lake.

Canto V. Roderick's description of the country.

b. Our Country—The Sketch-Book (Aids in use of adjectives).

2. Material.

a. Children read in any good geography the paragraph on the surface, climate, and industries of the groups of states through which the railroads pass.

b. Railroad guides of the various western routes.

3. It is more interesting to divide this topic into several parts. Give one group the railroad guides to Chicago and have them read the appropriate paragraphs in their geographies and describe that section of the journey.

Another group may take the section traversed by the Central Pacific; a third group the trip to New Orleans; and a fourth, the Southern Pacific.

When the compositions are read, the two groups describing the northern route read consecutively. The remaining groups then read their descriptions of the southern route.

4. Allow children to illustrate these compositions with diagrams showing relief of United States or with maps of routes described.

5. A collection of time tables and railroad maps kept from term to term will be found very useful.

6. Useful words:

scenery	imposing
plain	dreary
mountainous	hilly
rolling	rugged
level	precipitous
vast	fertile
boundless	thrifty
herding	village
agriculture	town
manufacturing	city.

III. A STORY I HAVE READ.

1. Introduction.

a. The scene.

b. The characters.

2, Body.

a. Events in their order according to time.

3. Conclusion.

a. The climax.

SUGGESTIONS.

1. Explain meaning of climax. Have children name climaxes of familiar stories.

2. Discuss need of brevity.

3. Have children make a list of topics and from the list select three or four of the most important. This may be done with the cantos of the poem studied in the grade. Discuss why certain topics were selected and others omitted.

IV. A NEWSPAPER PARAGRAPH.

"A Recent Event" or "A Street Occurrence."

1. Introduction.

a. When and where it occurred.

2. Body.

a. Events.

b. Probable causes.

3. Conclusion.

a. Results.

SUGGESTIONS.

1. Talk on need of brevity and, hence, omission of all but important details.

2. Talk on tone: humorous, serious, crisp and business-like.

3. Have a collection of three or four good newspaper paragraphs or short articles. Have these read after the children have written theirs. Compare these with the children's, commenting on brevity, clearness, etc.

Fourth Week. Friendly Letters.

MODELS.

1. Lowell's letter—M. and J., p. 16.

2. Celia Thaxter's letter (an extract) —M. and J., p. 17.

3. Phillips Brooks' letter—M. and J., p. 28.

Review. Heading, salutation, form of closing, signature, and superscription.

TOPICS.

I. THE NEW CLASS.

1. What we do and how I like it.
   a. The grade.
   b. When promoted.
   c. New studies.
   d. Methods used by the new teacher.

II. WHAT I LIKE ABOUT THE LADY OF THE LAKE.

1. Descriptions.
2. Characters.
3. Adventures.
4. Life in the Highlands.

III. MY SATURDAY TRIP AND AN INVITATION.

1 How I happened to go.
2. Where I went.
3. What I did.
4. How I enjoyed it.
5. An invitation to go with the writer next Saturday.

IV. THE LAST BALL GAME.

(Baseball, Captain Ball, or Basket-Ball.)

1. Introduction.
   a. Where held.
   b. The opposing teams.
   c. Who attended.
2. Body.
   a. Gathering of spectators.
   b. The game.
      1. Arrival of teams on field.
      2. Exciting points and plays.
      3. The result.
3. Conclusion.
   a. The writer's feelings after the game.
   b. The return home.

Note.—In all letter-writing, the use of the two division plan described in the introduction adds greatly to the interest.

Second Month. Description.

First Week. Study of Paragraphs of Description.

I. MODELS.

1. East's Study—M. and J., p. 33.
2. The Sexton's Dwelling—The Sketch Book.
3. Ellen's Home—The Lady of the Lake, Canto I, Stanza 26.
   SUGGESTION. Children write it in prose form.
4. My Room—The Sketch-Book.

II. TOPICS.

Write descriptions of

1. Our Assembly Room.
   a. General appearance.
   b. Platform.
   c. Piano.
   d. Seats.
   e. Aisles.
   f. Decorations.
2. The Cloak Rooms.
   a. Position.
   b. Size.
   c. Hooks.
   d. Shelves.
   e. Umbrella stand.
   f. Ventilation.
3. The Teacher's Desk.
   a. Position.
   b. Size.
   c. Material.
   d. Construction.
   e. Ink-well, books, etc.
4. My Desk.
   (See topics in No. 3.)

Second Week. Description of an Object or a Person.

MODELS.

1. Grandfather's Chair—M. and J., p. 10.
2. The Great Stone Face—M. and J., p. 141.
3. Four Little Women—M. and J., p. 21.
4. Malcolmn Graeme—The Lady of the Lake, Canto II, Stanza 25.
5. James Fitz-James—The Lady of the Lake, Canto I, Stanza 21.

TOPICS.

I. Guess What It Is!

1. Introduction.
   a. Familiarity of reader with object described.
2. Body.
   a. Size.
   b. Shape.

c. Color.
d. Distinctive parts.
3. Conclusion.
a. A general suggestion of its usefulness.

II. GUESS WHAT I MADE!

(Outline same as I.)

III. WHO IS THE BOY? (OR GIRL).

1. Introduction.
a. The kind of boy (or girl) I am going to describe.
b. Their relation to me (friend, classmate, etc.).
2. Body.
a. General height.
b. Build.
c. Coloring.
1. Complexion.
2. Hair.
3. Eyes.
3. Conclusion.
a. Tricks of manner or speech or dress.
b. Tastes.

SUGGESTIONS.

1. Give short talk upon the necessity for courtesy and a kindly spirit in compositions on the topic just outlined.

IV. OF WHAT STATE AM I THINKING?

1. Introduction.
a. General location.
b. General character
(Rich, fertile, stern, etc.)
2. Body.
a. Surface.
b. Rivers.
c. Climate.
d. Occupations.
e. Cities.
3. Conclusion.
a. Famous surface features (e. g. Yosemite Valley, etc.)
b. Special historical events.

SUGGESTIONS.

1. Places and events may be described but should not be named. Use suggestion only throughout this composition.
2. Material.
a. Paragraphs on drainage, climate, and products are read in the geography.
b. Chief cities are listed but are mentioned only by telling for what they are noted.
3. This form of composition may also be used for describing countries. In this case the following topics may be added:
a. The people.
1. Their dress.
2. Their customs.

Third Week.

MODELS.

1. The Kitchen of an English Inn—The Sketch-Book.
2. Bracebridge Hall—The Sketch-Book.
3. Interior of Charlecot Hall—The Sketch-Book.
4. The Farm of Baltus Van Tassel (The Interior)—Sketch-Book.

TOPICS.

I. A COLONIAL KITCHEN.

1. Introduction.
a. Its importance.
1. Living room in small homes.
2. Place where the mother often was, therefore, center of family interest.
2. Body.
a. Impression on entering.
(1) Size.
(2) Cheerfulness.
(3) Cleanliness.
b. The great fireplace.
(1) Andirons.
(2) Logs.
(3) Crane.
(4) Benches.
c. Furniture.
(1) Tables.
(2) Chairs.
(3) Shelves.
(4) Rows of shining pewter.
d. Herbs hanging from ceiling.
2. Conclusion.
a. Visions of good things prepared and enjoyed there.

SUGGESTIONS.

1. Material.

Picture of colonial kitchen.

2. Children look at picture and then close their eyes and imagine what would impress them first. The other points are then named in the order of their importance.

II. OUR KITCHEN AT HOME.

1. Introduction.

a. Variety in size of modern kitchens.

b. Importance of modern kitchens.

2. Body.

a. General impression.

b. Objects in order of importance.

c. Conveniences.

3. Conclusion.

a. Importance of cleanliness.

b. Appreciation of modern comforts.

Note.—Topics I and II form an excellent contrast.

III. MY FAVORITE ROOM.

(Writer's Room, Library, Attic.)

1. Introduction.

a. The pleasures enjoyed in the room described.

2. Body.

a. Comparative size.

b. Chief articles of furniture and their location.

c. The owner's tastes as shown by decorations, etc.

3. Conclusion.

a. The time spent there in some enjoyable occupation.

SUGGESTIONS.

1. Helpful model.

The Inn Parlor—The Sketch-Book.

2. A definite point of view should be kept, for example, as one enters the door.

IV. MY HOME.

1. Introduction.

a. Location.

b. Comparative size.

2. Body.

a. Exterior.

(1) Entrance.

(2) Porches, etc.

b. Interior.

(1) Rooms and their locations.

(2) General furnishing.

3. Conclusion.

a. The appreciation of a good home.

SUGGESTION.

Care must be taken not to attempt too much. Let the children suggest all things worthy of mention and then strike out those which are unimportant or repetitions. The remaining topics should then be grouped according to some regular plan, such as location, similarity, etc.

Fourth Week. Letters.

I. Application for Position.

1. Introduction.

a. When and where advertisement was seen.

b. Vacancy carefully specified.

2. Body.

a. Qualifications of applicant.

(1) Age.

(2) Education.

(3) Previous experience.

(4) Willingness to work.

(5) Present residence (with parent, or otherwise).

b. References.

3. Conclusion.

a. Willingness to call at any specified time for a personal interview.

b. Respectful wish for a favorable reply.

SUGGESTIONS.

1. Talk about respectful tone of application.

2. Have children bring newspaper advertisements and answer them. Paste the clipping in the upper left-hand corner of the composition.

II. ORDER FOR GOODS.

1. Introduction.

a. Name of firm and destination of goods.

2. Body.

a. Goods, amounts, and prices specified.

3. Conclusion.
   a. Statement of method of payment.

SUGGESTIONS.

1. Have collection of catalogues issued by wholesale furniture, grocery, and produce houses. Actual price lists should be required of the children.

2. Discuss need of brevity in all business communications.

III. LETTER OF RECOMMENDATION.

1. Introduction.
   a. Name of person recommended.
   b. Relation to writer (friend, employee, etc.).
2. Body.
   a. Facts known to writer concerning character and ability of person recommended.
3. Conclusion.
   a. Form of closing.
   b. Signature.

IV. REPLIES TO I, II, OR III.

Third Month. Exposition.

First Week. Models.

1. How to Make and Manage Float—M. and J., p. 19.
2. Invalid's Food—M. and J., p. 31.
3. Sap Boiling—Being a Boy.

Second Week.

I. HOW I MADE A TOWEL ROLLER.

1. Introduction.
   a. Usefulness of towel roller.
   b. Materials.
      (1) Wood.
         (a) Kind.
         (b) Thickness.
         (c) Amount.
         (d) Probable price.
      (2) Tools.
2. Body.
   Minute directions.
   a. Size of parts.
   b. Cutting.
   c. Finishing.
   d. Polishing (or staining).
   e. Putting together.
   f. Method of hanging it.
3. Conclusion.
   a. Pleasure and convenience derived from its use.

SUGGESTIONS.

1. Children may describe any article they have made in the shop.

2. In this and in all similar compositions, encourage the children to use illustrative sketches and diagrams. Show how one illustration or sketch is better than many words.

II. A USEFUL GIFT. (BOOK RACK.)

1. Introduction.
   a. Every one should have some favorite books and therefore should have a book rack.
2. Body.
   (See outline given in I.)
3. Conclusion.
   a. The various tastes in books it may hold.
   b. Cozy hours in the company of these faithful friends.

III. HOW TO MAKE—CAKE.

1. Introduction.
   a. Materials needed.
   b. Quantity.
2. Body.
   a. Mixing.
   b. Order of ingredients.
   c. Baking.
3. Conclusion.
   a. Appearance.
   b. Pleasure of those who eat it.
   c. Satisfaction in giving pleasure to others.

Note.—Children will readily give a list of topics studied in domestic science.

IV. SETTING A TABLE.

1. Introduction.
   a. Attractiveness of well-set table.
      (1) Pleases the eye.
      (2) Tempts the appetite.
2. Body.
   a. The tablecloth and napkins.
   b. The dishes, glasses, silver.
   c. The decorations.
3. Conclusion.

a. Necessity for neat and dainty service.

Note.—Sewing may be used in selecting exposition topics.

Third Week. Review of Narration.

I. THE DAY WE SIGHTED LAND.

1. Introduction.
   a. On board the Santa Maria.
   b. Sunrise.
   c. Sailors astir.
   d. Wretched food.
2. Body.
   a. Smoldering discontent.
   b. Discussion of birds sighted recently; of the floating branch.
   c. Another weary day on the wide waste of waters.
   d. Evening.
   e. Setting the watch.
   f. Cry of "Land."
   g. Excitement.
   h. Ships "hove to."
   i. Lights on shore.
3. Conclusion.
   a. Surmises as to what land they have reached.
   b. Impatience for morning.

SUGGESTIONS.

1. Material.
   a. Gordy's History.
   b. Montgomery's History.
2. This composition may be written in the first or the third person. If the first person is used, talk about the style of speech used in those days and allow the use of a few of the expressions to give proper "tone."
3. Useful model.
   The Sea—The Sketch Book.

II. A DAY WITH CAPTAIN JOHN SMITH.

1. Introduction.
   a. Poor condition of colony.
   b. Laziness of colonists.
   c. Ignorance of work.
2. Body.
   a. Assignment of tasks.
   b. Inspection of tasks.
   c. The threat to seize the boat.
   d. Smith's reply.
   e. Mounting the cannon.
   f. List of misdemeanors.
   g. Punishment of offenders.
3. Conclusion.
   a. Arrival of an Indian messenger.
   b. Offer of food.
   c. Plan for exploring trip.
   d. Weariness after day's work.
   e. Thoughts of England.

SUGGESTIONS.

1. Material. Any good history.
2. Talk about quaint, dignified methods of speech.

III. A DAY ON A VIRGINIA PLANTATION.

1. Introduction.
   a. Morning.
      1. Breakfast.
      2. Letters from packet-boat.
2. Body.
   a. Ride over the plantation.
      1. Inspection of slaves at work.
      2. Inspection of "quarters."
   b. Return to the house.
   c. Arrival of visitors on way to Jamestown.
   d. Dinner.
   e. Visitors leave.
3. Conclusion.
   a. The evening meal.
   b. Reading, music, or games during the evening.

SUGGESTIONS.

1. Discuss formal method of speech.
2. Use of titles, Sir, Madam (instead of Mrs.), etc.

IV. A PLYMOUTH BOY'S (OR GIRL'S) WEEK.

1. Introduction.
   a. Early rising.
   b. Daily duties at home or in shop, or on farm.
2. Body.
   a. Plans for the week.
      (According to season of the year.)
   b. Men attend town meeting.
   c. News of the Indians.
   d. Return home.

e. Early evening meal and short evening.
f. News of the townspeople.
g. Letters from England.
3. Conclusion.
a. Sunday beginning at sunset Saturday night.
b. Trip to church.
c. Long service.
d. Sunday afternoon.
e. Sunset (Day ended. Household tasks).

SUGGESTION.

Discuss quaint method of speech.

Fourth Week. Formal Notes.

I. Invitation.
II. Acceptance.
III. Regret.

SUGGESTIONS.

1. Models.
Maxwell's and Johnston's School Composition or any other good composition book.
2. Discuss
a. Paper
(1) Size.
(2) Quality.
b. Placing and alignment.
c. Lack of heading and salutation.
d. Use of third person.
3. Let children of one division write the invitations. Have these distributed among the pupils of the second division who write acceptances or regrets.

Fourth Month. General Review.

First Week. Narration.

MODELS.

1. The Chase—The Lady of the Lake, Canto I, Stanzas through 10.
2. Pursuing the Woodchuck—Being a Boy.
3. A Trip—Being a Boy.

TOPICS.

I. HOW I HUNTED A RABBIT.
1. Introduction.
a. How I planned to go.
b. Preparations.
c. The start.
1. Where.
2. With whom.
3. Equipment.
2. Body.
a. Arrival at destination.
b. How the hunt was started.
c. Success or failure in finding game.
d. Lunch.
e. The afternoon.
3. Conclusion.
a. The return home.
b. What our friends said.

II. A BUTTERFLY HUNT.
1. Introduction.
a. Preparations.
b. Equipment.
(Tin box, butterfly net, chloroform.)
2. Body.
a. Trip to destination.
b. Races after specimens.
b. Captures.
d. Losses.
e. Lunch.
f. The afternoon (spent in hunting or resting).
3. Conclusion.
a. Return trip.
b. Mounting the specimens.
c. Value of such a collection.

III. LITTLE MR. BO-PEEP.
(Prairie Dog.)
1. Preparation.
a. Description of Prairie Town.
b. Some leading citizens.
1. Billie Boastful.
2. Dannie Daring.
3. Charlie Cautious.
2. Body.
a. Morning appearance.
b. Breakfast.
c. Games.
d. Visits.
e. The enemy (Mr. Fox).
1. Narrow escapes.
2. The tragedy of Dannie Daring.
3. Conclusion.
a. Gossip of coming winter.
b. Good-night.

SUGGESTIONS.

1. May be written in the first or the third person. In the former case, the story may be told by either Billie or Charlie. Discuss the general tone of the remarks which such characters would probably utter.

IV. THE BATTLE OF TRENTON.

1. Introduction.
   a. The opposing forces.
      (1) Where located.
      (2) Probable numbers.
      (3) Leaders.
   b. The preparations for attack.
2. Body.
   a. The attack.
   b. Interesting incidents.
   c. The results.
3. Conclusion.
   a. Subsequent moves of opposing forces.

SUGGESTIONS.

1. The children should keep one point of view by imagining themselves with one of the armies and narrating from that view point only.

2. The Battle of Long Island may be treated in similar fashion.

3. The reading of "Tabby's Tablecloth" in the "Spinning Stories" of Louisa May Alcott will add interest to a study of Revolutionary times.

4. Useful words.

troops	advance
commanders	attack
colors	retreat
infantry	flight
cavalry	musketry
artillery	cannon.

Second Week. Exposition.

Note.—The following outlines for science compositions have been expanded and contain much of actual subject matter to guide teachers of composition who are not also teachers of science. The information given can be used in the preparation and the teacher can develop the outline accordingly.

I. PRODUCTION OF SOUND.

1. Introduction.
   a. Physics teaches the why of everyday things.
   b. Example: production of sound.
   c. Hear sounds all through life.
   d. Few stop to think how or ask why.
   e. In 8A learn new and interesting facts on sound.
2. Body.
   a. Origin or source of sound—a vibrating body sends out sound in all directions.
   b. The medium or conductor—carries sound waves.
      (1) Conductivity varies with substance.
      (2) Air the usual medium. (1125 ft. per second.)
   c. The ear or receiver.
      (1) Sound waves enter ear.
      (2) Strike ear-drum.
      (3) Vibration transmitted through inner ear.
      (4) Sound is sensation in brain.
3. Conclusion.
   a. Clear distinction between sound waves and sound.
   b. No sound without origin, medium and ear.
   c. Hard to realize—no sound at origin.
      1. Firing of cannon, avalanche, merely set up vibrations. No sound unless ear to receive sound waves.
   d. This is only one instance of wonderful facts about common phenomena learned in study of physics.

SUGGESTION.

1. Use diagrams in this and succeeding science work.

II. THE THERMOS BOTTLE.

1. Introduction.
   a. Comparatively recent invention.
   b. Uses.
      (1) Keeps hot liquids hot.
      (2) Keeps cold liquids cold.
   c. Seems wonderful.
   d. Based upon well-known principle of Physical Science.

(1) A medium necessary for transmission of heat.

(2) No heat where no matter.

2. Body.

a. Construction of thermos bottle.

(1) Smaller bottle inside larger.

(2) Air removed from space between.

b. Explanation.

(1) Heat flows from warmer to cooler body.

(2) Heated liquid in bottle; difficult for heat to reach outside air.

(3) Cold liquid in bottle; difficult for heat in air to reach liquid.

(4) Vacuum not perfect, therefore, time limited.

3. Conclusion.

a. Wonderful at first; simple when explained.

b. Only one of many inventions resulting from study of natural laws.

c. Other inventions, still more wonderful, awaiting discovery.

III. THE CENTIGRADE THERMOMETER.

1. Introduction.

a. Everyone consults thermometer.

(1) All know it registers temperature.

(2) Few know why.

b. Explanation in 8A physics.

(1) Expansion and contraction due to heat and cold.

2. Body.

a. Construction.

(1) Hollow glass tube; hollow bulb at end.

(2) Partly filled with mercury or colored alcohol.

(3) Air above liquid exhausted; end fused shut.

(4) Mounted on wood or metal back.

b. Marking the scale.

(1) In melting ice, mark 0 deg. C.

(2) In steam or boiling water, marked 100 deg. C.

(3) Space between graduated; 100 equal divisions, hence, name—centi grade.

3. Conclusion.

a. Useful and remarkable instrument based upon simple law.

b. Liquid at temperature of surrounding medium.

(1) When heated, liquid expands and rises.

(2) When cooled, liquid contracts and falls.

(3) Thus, column registers degree of heat compared with freezing water.

c. Surely a pleasure to understand how and why such scientific instruments work.

IV. HEATING AND VENTILATION.

1. Introduction.

a. We all know that people need heat in cold weather and fresh air at all times.

b. Few neglect heat, but many forget fresh air.

c. Three things important:

1. Heat.

2. Supply of fresh air.

3. Exit for used air.

d. Many systems exist. Will discuss a few briefly.

2. Body.

a. Hot air Furnaces.

(1) Fresh air through chute to chamber above fire.

(2) Heated and rises by convection to rooms.

(3) Thus, supplies heated fresh air.

(4) We must supply exit for used air.

b. Steam and Hot Water.

(1) Steam or hot water rises to rooms by convection.

(2) These systems supply heat only.

(3) We must attend to ventilation.

(4) System of fans used in schools.

c. Oil and Gas Stoves.
(1) Supply heat only.
(2) No provision for ventilation.
(3) Spoil air in room by using oxygen.
d. Open Fireplaces.
Excellent for ventilation; draft up chimney.
(2) Uneven heat: too hot near fire; cold in other parts of room.
e. Coal Ranges.
(1) Often give off poisonous fumes.
3. Conclusion.
a. This principle of convection part of 8A science work.
(1) Of the methods of heat transfer.
(2) Depends upon expansion due to heat.
b. Thus, even to the trades, a knowledge of the natural laws is necessary.
(Theories of Spencer.)

Third Week. Description.

MODELS.

1. My Grandmother's Portrait. — M. and J., p. 71.
2. The Coachman—The Sketch-Book.

TOPICS.

I. COSTUMES.

A Puritan (Man or Maid).
A Quaker or Friend.
A British Grenadier.
A Colonial Gentleman.
A Colonial Dame.

1. Introduction.
a. General Impression (Demure, martial, imposing, stately, etc.).
b. Materials.
(1) Quality.
(2) Color.
2. Body.
a. Description in detail.
3. Conclusion.
a. Comparison with modern costume.
(1) Advantages.
(2) Disadvantages.
3. Conclusion.

SUGGESTIONS.

1. Materials. Pictures in any good history. Gordy's history has a number. Magazine illustrations which are accurate and pleasing should be saved.
2. Useful words.

silks	slashings
satins	sword
woolen	girdle
home-spun	knee-breeches
cloth	cocked hats
velvet	poke bonnet
fur	mitts
ruffles	kerchief
laces	ruff
buckles	queue
jewels	

II. THE INDIAN AND HIS HOME.

1. Introduction.
a. Wild life in forest and on plain.
2. Body.
a. The Indian.
(1) Appearance.
(a) Coloring.
(b) Features.
(c) Hair.
(d) Build.
(2) Clothing.
Skins.
Belt.
Leggins.
Head-dress.
b. His home.
(1) East of the Mississippi.
(2) On the plains.
3. Conclusion.
Comparison with the modern Indian.

SUGGESTION.

1. Material.
Gordy's History (U. S.).
Montgomery's History (American).
Fiske's History of the U. S.

III. OF WHAT RIVER AM I THINKING?

1. Introduction.
a. Comparative size.
b. General direction.

c. Into what kind of body of water it flows.

2. Body.

a. Scenery along its course.

b. Its importance to

(1) Agriculture.

(2) Manufacturing.

(3) Commerce.

3. Conclusion.

a. Any special characteristics.

b. The song the river sings.

SUGGESTIONS.

1. Have good compositions read in class.

2. Children try to guess the name of the river.

a. Points which helped them to guess.

b. Additional points which would have given clearness, interest, or beauty to the description.

4. Model.

The River—The Water-Babies.

IV. DESCRIPTION OF A PICTURE.

1. Introduction.

a. General character.

(Landscape, marine, interior, portrait, etc.

2. Body.

a. Foreground.

b. Principal objects and their description.

c. Background.

3. Conclusion.

a. Significant points.

(1) Pose.

(2) Articles in view.

(3) Atmosphere (general tone of the subject and its effect upon the spectator).

SUGGESTION.

MODEL: A Friendly Group — The Sketch-Book.

Fourth Week. Telegrams.

SUGGESTIONS.

1. Discussion. Have telegraph blank. Note what is required:

a. Name and address of recipient.

b. Message.

c. Name of sender.

2. Cost of telegrams.

3. Necessity for brevity.

3. Children write telegrams. Children write letters describing entire incident: events, sending of telegram, results.

TOPICS.

1. Summons to father. Accident at home.

2. Notice of arrival.

3. To expect a package.

4. Bit of information required.

5. Reply to number 4.

Fifth Month. Miscellaneous.

First Week. Miscellaneous Narration.

I. MY CHANCES OF PROMOTION.

1. Introduction.

a. Close of term near.

b. Examinations.

2. Body.

a. My work during term.

(1) English.

(2) Mathematics.

(3) History.

(4) Geography.

(5) Science.

b. My greatest success.

c. My worst failure.

3. Conclusion.

a. My effort.

b. How I could be made to do better.

II. MY FAVORITE STUDY.

1. Introduction.

a. What it is.

2. Body.

a. Why I like it.

(1) The subject.

(2) The teacher.

(3) The way it is taught.

(4) My individual work.

a. What I expect to do with it in the future.

III. THE LOST SQUIRREL.

1. Introduction.

a. Its home in the park.

b. Why it strayed.

2. Body.

a. Where it went.

b. Its adventures.

c. Its feelings.

3. Conclusion.

a. The results of its wanderings.

SUGGESTION.

Told in first or third person.

IV. DESCRIPTION.

Brief Description of Lost Article for Newspaper).

1. Topics.

a. Lost.

(1) When.

(2) Where.

b. Appearance.

c. Reward.

d. Owner's address.

SUGGESTION.

Children bring clippings from "lost" and "found" columns of newspapers. Have these read aloud. Criticize. Compare with their descriptions.

Second Week. Exposition.

I. HOW FORESTS PRODUCE RAIN.

1. Introduction.

a. Need of rain.

b. Way the air is heated.

(1) Heating of earth.

(2) Heating of air by contact.

2. Body.

a. Effect of forests upon temperature of earth under the forest.

b. Effect upon air in forest.

c. Effect upon air aboe forest

d. Moisture-bearing winds.

e. Contact with cooler air above forest.

f. Condensation.

g. Clouds.

h. Rain.

3. Conclusion.

a. Results of reckless destruction of forests.

b. Protection of forests.

c. Arbor Day.

SUGGESTION.

Children illustrate by means of sketches.

II. CAUSE OF WIND.

1. Introduction.

a. Our friend, the balmy wind.

b. Our enemy, the gale.

(1) At sea.

(2) On land.

c. Desire to know cause of this powerful agent.

2. Body.

a. Unequal heating of earth's surface due to

(1) Latitude.

(2) Altitude.

(3) Surroundings, etc.

b. Effect of heat upon air.

(1) Expansion.

(2) Rises.

(3) Vacuum.

c. Nature fills vacuum with air.

d. Rush of cold air in below.

e. This new air heated, rises.

f. Continuation of process causes current of air rusing into space and upper current rushing out.

g. Current of air, called wind.

3. Conclusion.

a. Direction of wind affected by:

(1) Motion of earth.

(2) Surface features.

III. THE UNITED STATES MAIL.

1. Introduction.

a. Importance of its transportation.

b. Growth in bulk.

2. Body.

a. How carried in colonial days.

(1) Mounted carrier.

(2) Stage coach.

b. How carried to-day.

(1) Train.

(2) Steamship.

(3) Pneumatic tubes.

c. City delivery.

d. Rural delivery.

3. Conclusion.

a. Cost to the public (originally).

b. Reduction of postage.

(1) Amount of mail increased.

(2) Larger revenue.

c. Fire system in U. S.

(1) Care in tracing individuals.

(2) Dead-Letter Office.

SUGGESTION.

Material. Gordy's History, p. 198.

IV. THE GROWTH OF RAILROADS.

1. Introduction.
   a. Early modes of travel.
      (1) Horse-back.
      (2) Stage-coach.
2. Body.
   a. Introduction of steam-engine.
   b. Date of first railroad in England.
   c. Introduction into United States.
   d. Growth.
   e. The Baltimore and Ohio in 1830.
   f. The Boston and Worcester in 1835.
   g. The modern flyer.
      (1) Powerful engines.
      (2) Luxurious cars.
      (3) Fine road-beds.
3. Conclusion.
   a. Appearance of a railroad may of the United States.
   b. Value of railroads.

SUGGESTIONS.

Material. Gordy's History, pp. 199, 257, 258, and 261.

Children study pictures carefully.

Third and Fourth Weeks. Letters Written Without Preparation.

TOPICS.

1. Application for a position.
2. Reply to application.
3. Recommendation.
4. Friendly letter.
5. Friendly invitation.
6. Formal invitation.
7. Formal acceptance.
8. Formal regret.
9. Telegram.
10. Reply by telegram.
11. Description of picture.

Topics for Term Essays.

1. The barbarism of the Aborigines.
   (As shown in their villages, weapons, horticultural warfare, cruelty and religion.)
2. The Search for the Northwest Passage.
3. Spain and the New World.
4. The Life of Samuel de Champlain.
5. Virginia in Colonial Days.
6. The Story of Puritanism in the New World.
7. The Four Leading Colonies.
8. Frontenac.
9. A Half Century of Conflict.
   (France vs. England.)
10. Causes of the Revolution.
11. The Generalship of Washington.
12. The Critical Period.

MODELS USED BY PERMISSION.

The abstracts chosen as models are used by permission of the publishers of the respective books, as follows:

Warner's *Being a Boy,* Houghton Mifflin Company.

Hawthorne's *Grandfather's Chair,* Newson and Company.

Kingsley's *Water-Babies,* The Macmillan Company.

MODELS ABRIDGED.

Tom and the Fairy.

From *The Water-Babies,* p. 195.

Now little Tom watches all these sweet things given away, till his mouth watered, and his eyes grew round as the owl's. For he hoped that his turn would come at last; and so it did. For the lady called him up, and held out her fingers with something on them, and popped it into his mouth; and, lo and behold, it was a nasty cold, hard pebble.

"You are a very cruel woman," said he, and began to whimper.

"And you are a very cruel boy; who puts pebbles into the sea-anemone's mouths, to take them in, and make them fancy they had caught a good dinner! As you did to them, so I must do to you."

"Who told you that?" said Tom.

"You did yourself, this very minute."

Tom had never opened his lips; so he was very much taken aback indeed.

"Dear me," thought Tom, "she knows everything!" And so she did, indeed.

Recess.

From *Being a Boy,* p. 67.

Was ever any enjoyment so keen as that with which a boy rushes out of the

school-house door for the ten minutes of recess? He is like to burst with animal spirits; he runs like a deer; he can nearly fly; and he throws himself into play with entire selfforgetfulness, and an energy that would overturn the world if strength were proportioned to it. For ten minutes the world is absolutely his; the weights are taken off, restraints are loosed, and he is his own master for that brief time—as he never again will be if he lives to be as old as the king of Thule, and nobody knows how old he was. And there is the nooning, a solid hour, in which vast projects can be carried out which have been slyly matured during the school-hours; expeditions are undertaken, wars are begun, and games are carried on which involve miles of running, and an expenditure of wind sufficient to spell the spelling book through at the highest pitch.

Driving the Oxen.

From *Being a Boy,* p. 2.

The proudest day of my life was one day when I rode on the neap of the cart, and drove the oxen, all alone, with a load of apples to the cider mill. As I said, it was a great day for me, but I don't remember that the oxen cared much about it. They sagged along in their great clumsy way, switching their tails in my face occasionally, and now and then giving a lurch to this or that side of the road, attracted by a choice tuft of grass. And then I "came the Julius Cæsar" over them, if you will allow me to use such a slang expression, a liberty I should never permit you. I don't know that Julius Cæsar ever drove cattle, though he must often have seen peasants from the Campagna "haw" and "gee" them round the Forum (of course in Latin, a language that those cattle understood as well as ours do English); but what I mean is, that I stood up and "hollered" with all my might, as everybody does with oxen, as if they were born deaf, and whacked them with the long lash over the head, just as the big fellows did when they drove. I think now that it was a cowardly thing to crack the patient old fellows over the face and eyes, and make them wink in their meek manner. I never liked lickings myself, and I don't know why an ox should like them, especially as he cannot reason about the moral improvement he is to get out of them.

Fishing.

From *Being a Boy,* p. 24.

No other boy knows how to appreciate a holiday as the farm-boy does; and his best ones are of a peculiar kind. Going fishing is of course one sort. The excitement of rigging up the tackle, digging the bait, and the anticipation of great luck; these are pure pleasures, enjoyed because they are rare. Boys who can go a-fishing any time care but little for it. Tramping all day through bush and brier, fighting flies and mosquitoes, and branches that tangle the line, and snags that break the hook, and returning home late and hungry, with wet feet and a stirng of speckled trout on a willow twig, and having the family crowd out at the kitchen door to look at 'em, and say, "Pretty well done for you, bub; did you catch that big one yourself?"—this is also pure happiness, the like of which the boy will never have again.

Tom and the Truncheon.

From *The Water-Babies,* p. 311.

Tom walked towards this great building, wondering what it was, till he saw running toward him, and shouting "Stop!" three or four people who, when they came nearer, were nothing else than policemen's truncheons, running along without legs or arms.

So he stopped, and when the foremost truncheon came up and asked his business, he showed Mother Carey's pass; and the truncheon looked at it in the oddest fashion, for he had one eye in the middle of his upper end, so that when he looked at anything, being quite stiff, he had to slope himself, and poke himself till it was a wonder why he did not tumble over.

"All right, pass on," he said at last.

And then he added, "I had better go with you, young man." And Tom had no objection, for such company was both respectable and safe; so the truncheon coiled its thong neatly round its handle, to prevent tripping itself up—for the thong had got loose in running—and marched on by Tom's side.

"Why have you no policemen to carry you?" asked Tom, after a while.

"Because we are not like those clumsey-made truncheons in the land-world, which cannot go without having a whole man to carry them about. We do our own work for ourselves; and do it very well, though I say it who should not."

"Then why have you a thong to your handle?" asked Tom.

"To hang ourselves up by, of course, when we are off duty."

Tom had got his answer, and had no more to say.

Sap Boiling.

From *Being a Boy*, p. 154.

It is a great day when the cart is loaded with the buckets and the procession starts into the woods. The sun shines almost unobstructedly into the forest, for there are only naked branches to bar it; the snow is soft and beginning to sink down, leaving the young bushes spindling up everywhere; the snow-birds are twittering about, and the noise of the shouting and of the blows of the axe echoes far and wide.

In the first place the men go about and tap the trees, drive in the spouts, and hang the buckets under.

Then the camp is cleared of snow. The shanty is recovered with boughs. In front of it two enormous logs are rolled nearly together, and a fire is built between them. Forked sticks are set at each end, and a long pole is laid on them, and on this are hung the great caldron kettles. The huge hogsheads are turned right side up, and cleaned out to receive the sap that is gathered. And now, if there is a good "sap run," the establishment is under full headway.

The great fire that is kindled up is never let out, night or day, as long as the season lasts. Somebody is always cutting wood to feed it; somebody is busy most of the time gathering in the sap; somebody is required to watch the kettles that they do not boil over, and to fill them. In the great kettles the boiling goes on slowly, and the liquid, as it thickens, is dipped from one to another, until in the end kettle it is reduced to syrup, and is taken out to cool and settle, until enough is made to "sugar off." To "sugar off" is to boil the syrup until it is thick enough to crystallize into sugar. This is the grand event, and is only done once in two or three days.

A Day in a Colony.

From *Grandfather's Chair*, p. 8.

All the inhabitants of the little village are busy. One is clearing a spot on the verge of the forest for his homestead; another is hewing the trunk of a fallen pine tree, in order to build himself a dwelling; a third is hoeing in his field of Indian corn. Here comes a huntsman out of the woods, dragging a bear which he had shot, and shouting to the neighbors to lend him a hand. There goes a man to the seashore, with a spade and bucket, to dig a mess of clams, which were a principal article of food with the first settlers. Scattered here and there are two or three dusky figures, clad in mantles of fur, with ornaments of bone hanging from their ears, and the feathers of wild birds in their coal-black hair. They have belts of shellwork slung across their shoulders, and are armed with bows and arrows and flint-headed spears. These are an Indian sagamore and his attendants, who have come to gaze at the labors of the white men. And now rises a cry that a pack of wolves have seized a young calf in the pasture; and every man snatches his gun or pike and runs in chase of the marauding beasts.

Pursuing the Woodchuck.

From *Being a Boy*, p. 171.

One day on his way to school a woodchuck crossed the road before him, and

John gave chase. The woodchuck scrambled into an orchard and climbed a small apple-tree. John thought this a most cowardly and unfair retreat, and stood under the tree and taunted the animal and stoned it. Thereupon the woodchuck dropped down on John and seized him by the leg of his trousers. John was both enraged and scared by this dastardly attack; the teeth of the enemy went through the cloth and met; and there he hung. John made a pivot of one leg and whirled himself around, swinging the woodchuck in the air, until he shook him off; but in his departure the woodchuck carried away a large piece of John's summer trousers-leg. The boy never forgot it. And whenever he had a holiday, he used to expend an amount of labor and ingenuity in the pursuit of woodchucks that would have made his fortune in any useful pursuit.

A Trip.

From *Being a Boy*, p 26.

The night before I could scarcely sleep for thinking of it, and there was no trouble about getting me up at sunrise that morning. The breakfast was eaten, the luncheon was packed in a large basket, with bottles of root beer and a jug of switchel, which packing I superintended with the greatest interest.

The whole day was full of excitement and of freedom. We were away from the farm, which to a boy is one of the best parts of farming; we saw other farmers and other people at work; I had the pleasure of marching along, and swinging my whip, past two boys whom I knew, who were picking up stones. Every turn of the road, every bend and rapid of the river, the great bowlders by the wayside, the watering-troughs, the giant pine that had been struck by lightning the mysterious covered bridge over the river where it was most swift and rocky and foamy, the chance eagle in the blue sky, the sense of going somewhere—why, as I recall all these things, I feel that even the Prince Imperial could not have been as happy as was I, a boy in short jacket and shorter pantaloons, trudging in the dust that day behind the colts and steers, cracking my black-stock whip.

I wish the journey would never end; but at last, by noon, we reach the pastures and turn in the herd; and, after making the tour of the lots to make sure there are no breaks in the fences, we take our luncheon from the wagon and eat it under the trees by the spring. This is the supreme moment of the day. This is the way to live.

The River.

From *The Water-Babies*, p. 41.

Behind him, far below, was Harthover, and the dark woods, and the shining salmon river; and on his left, far below, was the town, and the smoking chimneys of the collieries; and far, far away, the river widened to the shining sea; and little white specks, which were ships, lay on its bosom. Before him lay, spread out like a map, great plains, and farms, and villages, amid dark knots of trees. They all seemed at his very feet; but he had sense to see that they were long miles away. And to his right rose moor after moor, hill after hill, till they faded away, blue into blue sky.

Irving's Sketch-Book (Eclectic edition, American Book Company) furnishes models that may be used in connection with the models printed here. Citations follow:

1. The Little Old Book, p. 187.
2. Our Country, p. 14.
3. The Sexton's Dwelling, pp. 168, 169.
4. My Room, p. 49.
5. The Kitchen of an English Inn, pp. 35, 36.
6. Bracebridge Hall, pp. 40, 41.
7. Charlecot Hall, pp. 179, 180.
8. The Farm of Baltus Van Tassel, p. 107.
9. The Inn Parlor at Stratford, p. 165.
10. The Sea and Nearing Land, pp. 18, 19, 20, 21, 22, 23.
11. The Coachman, pp. 31, 32.
21. A Family Group, p. 181.

REPRESENTATIVE EDUCATORS

PRINCIPAL JAMES E. DOWNEY,
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Boston, Mass.

Mr. Downey is principal of the High School of Commerce, Boston, Mass. He was promoted to the principalship from the department of mathematics. His epochs of educational effort include Boston Latin School, Worcester and Holyoke, his specialties being mathematics, science, classical languages, modern languages and other subjects in the secondary curriculum.

In 1893 Mr. Downey escaped from a college to which he had been sent, went to Amherst and entered the course leading to B. A. He was graduated with the famous class of '97, without being harnessed with medals. The one supreme value of his college course was that he became acquainted with James E. Downey. He determined to make his biography read from 1897 rather than to 1897, and he succeeded in doing so. He has studied at home and abroad without becoming a parrot with degrees; he has assimilated ideas from books, men and things by doing some thinking for himself.

Enough has been said to show that Mr. Downey has individuality. For this reason his friends call him Jim. Too many teachers lose their indentity in social or professional success. Not so with Mr. Downey; and here is the secret of his leadership. Pupils find him a companion in all their youthful activities and yet he remains their ideal. He is with them in their intellectual and physical contests; in the twenty-mile walks on Saturdays; in excursions to business houses; in choosing vocations; in analyzing moral weakness and defects; and, above all, he is with them on the way to contrition and reformation instead of resorting to expulsion for misdeeds. This determination to save boys by making them masters of themselves is Mr. Downey's guiding thought; and that thought extended to moral, physical and intellectual training is an inspiring ideal in education.

Dr. Birkins.

Boston and New York City may well introduce this series of sketches of representative educators. In a time of destructive criticism, investigation and unrest, it is a relief to turn to the achievements of a man of deeds. The career of Dr. Birkins is a record of thirty-four years of distinctive service in this school system.

Dr. Birkins is an alumnus of the College of the City of New York, class of 1877. In 1883 he received the degree M. D. from the Medical Department of the University of the City of New York. He earned M. A. in his alma mater and received the degree in 1883. Thse facts suggest liberal and progressive scholarship but our interest lies in the use of his native and acquired power.

The influence of an active teacher or principal from 1877 to 1912 is not adequately reckoned by years, nor is it shown by an epitome of facts. The

Principal ERNEST R. BIRKINS, Public School No. 10, Manhattan

real worth of service is exemplified in the civic virtues of men and women who were his pupils, in the unified working spirit in the school, in the helpful attitude of patrons, and in the improved standards of life in the community. Responses to these tests of efficient service are concurrent with the work of Dr. Birkins since he entered the elementary evening schools in September, 1877. In January, 1878, he became a teacher in the boys' department of Public School No. 68, Manhattan, and five years later he was made First Assistant in that school. Twelve years in this capacity fitted him for the broader duties of principalship, a responsibility which he has held in Public School No. 10 since September, 1895.

Specific application of the tests mentioned is necessary to justify placing Dr. Birkins in our Hall of Fame. We don't have to go begging for evidence. He has always stood for thoroughness in scholarship, thus bringing the best of the old school into harmony with new ideas. But thorough scholarship does not mean simply the ability to pass examinations; it means a liberal education that makes use of all the affiliated interests that constitute the social welfare of community life. As a practical illustration of this, his school possesses four flags presented by citizens of the community—a National Flag, a State Flag, a City Flag and a Peace Flag. Aside from these objective proofs of community interest, Dr. Birkins has made the Parents' Association a powerful stimulus in the school work. The result could hardly be otherwise under the praiseworthy object of the Parents' Association as expressed in Article II of the Constitution of that society:

"SECTION 1. The object of the Association shall be to bring the home and the school into closer relations; to enable the Principals and the teachers to know from the parents, at first hand, the peculiarities and tendencies of the individual child; to encourage the Principals and the teachers by hearty co-operation, enlightened sympathy, and public spirit; to help to inspire the child to form more careful habits of study, and to appreciate, accept, and follow higher ethical standards; and to foster an increasing interest on the part of the

community in the work of the school for the child."

His success in making local influence a vigorous help in education is evidence of fitness for organization, a fitness that leads to effectual results while destructive criticism is wasting energy in searching for the causes of failure. Genial but not flattering, positive but not dogmatic, tactful but not soft, yielding to fair demands but firm for justice, Dr. Birkins has unostentatiously brought all the factors in modern education into contributive service.

As teacher, principal, organizer, friend, or man, Dr. Birkins deserves recognition as a representative educator.

Diversion

VICARIOUS.

The first grade teacher had been able to spank Tommy with the greatest enthusiasm, but his next teacher had not reached the point where she felt she could do justice to him in spite of all his naughtiness.

"Send him to me when you want him spanked," said the first grade teachre one morning after her colleague had related his many misdemeanors.

About 11 o'clock Tommy appeared at the first grade teacher's door. She dropped her work, seized him by the arm, dragged him to the dressing room, turned him over her knee and did her duty.

When she had finished she said: "Well, Tommy, what have you to say?"

"Please, miss, my teacher wants the scissors.—*Everybody's.*

Willie was immune. Throughout the trip he had been annoying the passengers. Finally his mother, turning to the father, said, in a very weak voice, gasping between each word: "Father—I wish—you'd—speak—to—Willie."

Father, turning a sea-green face toward the rampant youngster, spoke in a languid voice: "How-de-do, Willie?"

—*Ladies' Home Journal.*

REVENGEFUL.

"Will this goods wash?" asked the shopper.

"No, madam," answered the clerk. "This goods will shrink, run and fade the minute it is put in the water. I cannot tell a lie—its fierce to wash."

"Noble youth!" cried the shopper. "At last I have found an honest clerk. Cut me off ten yards of it, and——"

Stop, lady! You don't want this piece of goods. I'm glad you think well of me, but for all I know this piece may be all right. I've just been fired, and I'm trying to do the store all the dirt I can. Look around and see if you can't find something worse."—*Cleveland Plain Dealer.*

HE DID NOT UNDERSTAND.

Pat had been seized with violent pains and was hurried to a hospital. The physician in charge, after diagnosis, informed him that he had appendicitis, and that an operation was necessary as his appendix must be removed immediately.

Pat had not the least idea of what an appendix was, and so informed the physician, who laughingly told him that after the operation he would leave the appendix in the window so he could see it when he was able to sit up.

Some days after the operation Pat's curiosity got the better of him, and he raised up in bed to take a look at his appendix. To his amazement a monkey was sitting on the windowsill, and when he saw Pat he began to make faces and chatter at a great rate.

The astonished Irishman gave the monkey a long, hard look, and then exclaimed: "Don't do that, me boy, don't do that. Can't you see your mother is a very sick man?"—*Exchange.*

THE SWINDLE.

Hiram had just returned from a trip to the city, and was telling of the wonderful sights which he had witnessed at the theatre. He had saved the stub of his ticket for a souvenir of the great occasion.

His father picked up the piece of cardboard and, after looking at it closely, exclaimed, "Land sakes, Hiram, what did you say you paid fere that ticket?"

"One dollar, paw," says Hiram; "an' it was worth it."

"Well' son," exclaimed Hiram, Sr., "you got swindled, sure as fate! Here it says on this ticket, in plain English. 10 Center."—*Judge's Library.*

BILL WAS BILIOUS.

The new pupil was asked his name, by the teacher.

"Jule," said he.

"No," said the teacher, "Julius."

The youngster squirmed and protested, amid the laughter of the older pupils. Then the next boy, also, happened to be a new pupil and he was asked his name.

"Bill," he said, "but I guess you would call me Bilious."

A FAITHFUL OFFICE BOY.

The manager turned to the new boy.

"Here, George," he said. "Go into the next room and look up 'collaborate.' I'm not quite sure about the spelling."

The boy disappeared and did not return. The manager put the letter aside and took up some other duties. Presently he remembered the boy, and went out to look for him. He found him studying the big dictionary with great intentness.

"What are you doin, George?" he asked.

The boy looked around.

"I forgot the word you told me, sir," he replied, "an' I'm looking through the book to find it."

The manager gasped.

"How far have you got?"

"I'm just finishing the second page. sir."—*Exchange.*

AN ICONOCLAST.

Passer by—What's the fuss in the school yard, boy?

The boy—Why, the doctor has just been around examinin' us an' one of the deficient boys is kickin' the everlastin' stuffin's out of a perfect kid.

—*Cleveland Plain Dealer.*

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Published Quarterly
30 Cents

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Editor and Publisher

6 Third Avenue, Brooklyn, N. Y.

Subscription $1.00 a Year Single Copies 30 Cents

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Entered as second class matter at the Post Office, Brooklyn, N. Y.

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Announcement

Nearly half of the manuscript prepared for this March number had to be held for subsequent use. Some readers will be disappointed in not having the work for primary grades and 6B, but it did not seem advisable to try to condense the excellent term plans and other material in this issue. Most of the deferred material will be used in the June number which will be ready early in May. The June number will be devoted to exercises for drill in the elementary school.

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I happened to say something about Burlington.

He said: "Do you mean Burlington,

I answered: "Yes."

He said: "That is the most beautiful place in the world."

I remonstrated: "Why, Howells, can it be possible that that is your deliberate opinion after you have lived a dozen years in Italy, and know it from Sicily to the Riveria?"

He looked at me in a serio-comic way, and said emphatically, separating each of his earlier words: "Burlington, Vermont, is the most beautiful place in the world."

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THOMAS J. McEVOY, 6 Third Avenue, Brooklyn, N. Y.

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1912

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McEVOY MAGAZINE

INCLUDING

SCHOOL WORK and CATHOLIC SCHOOL WORK

Published September, December, March and June.

Yearly subscription, $1.00 in advance; single copy, 30 cents.

THOMAS J. McEVOY, Editor and Publisher,

Box 73. Station L. 6 Third Avenue, Brooklyn, N. Y. Telephone, Main 5342.

Entered as second class matter at the Post Office, Brooklyn, N. Y., October 3, 1911.

McEvoy Magazine, Vol. IV, No. 3 MARCH, 1912 School Work, Vol. X, No. 2

Some Transformations Among So-Called Incorrigibles

By Principal LYDIA A. MILLER

P. S. 150, Brooklyn

It may be that there is, somewhere, a poor, struggling teacher, at her wit's end to know how to reach and reform an incorrigible pupil. If there be any such, perhaps the recital of actual experience may assist him or her in getting hold of the right handle to some lawless character now considered hopeless.

The types of difficult boys are many, and sometimes there are "complications." There is the baby of the family, who must be taught unselfishness; the boy whose babyhood lasted overtime, as some three or four years elapsed before his sister or brother arrived. He has been soured by disappointment. He must be made to see that there is some sunshine left in the world after all, even if babyhood cannot last.

The "only" boy is a serious problem. He is Napoleonic in his ruthlessness and must be shown his comparative insignficance. The boy with a roof to shelter him, but no real home, is to be pitied and given a chance to be warm, and to be fed, to be comforted.

The worthless boy (so-called by his relatives) must be encouraged in his better parts, so that a nucleus be created round which to wreath a halo of good deeds, convincing alike to himself and to his disgusted "folks."

The "Leader of the Gang" is written with capitals because he is such a hero in his little community. He must have his misdirected talents turned toward better things, through the avenue of much-coveted school privileges; captaincy of his class, guardship of playroom; athletic activities, his opinion asked on momentous questions.

The Drudge in his way is as important as the Leader. His parents find him immensely useful. Since he gives most of his energy to fetching and carrying (and I have seen them bent double with burdens that many a man could not bear) there is only listlessness and the inclina-

tion for mischief in classroom. The tired body calls for recreation or rest, to be found neither in grammar nor in arithmetic.

But to the point, J. M. was a boy of the "baby-too-long" type. He had a low brow, hair growing down on either side his forehead, quivering nostrils, cruel mouth. He was generally neat in dress. For insolence both of manner and word, he had no equal. His great, slow moving sleek father only smiled at his pranks. "The boy will outgrow those things," he said. But the principal firmly insisted that a roomful of children was not to suffer waste of time and be deprived of instruction while J. M. was outgrowing his bad habits. Once he assisted a teacher by carrying some books for her. At the end of the task, they, the teacher and the boy, were seen in very noisy altercation. J. M. would not go peacefully to his room with a mere "Thank you" as reward. He demanded pay. He planted his feet firmly on the floor and declared he would not move till he had received money for his labor. Wishing to laugh, yet feeling the utter shame of it, the principal persuaded him to go to his room without pay. A year we labored with him, reasoning, studying, trying to find the right handle. Then J. M. fell into the hands of a teacher who neither bribed nor bargained. She executed. She "managed" him. She caught then at the first gleam of right-mindedness and made him general errand boy and teacher's right-hand man. Though his mind was warped so far as ability to take on scholarship was concerned, his moral nature was trained. His outbursts of temper gradually decreased in number and in fury,—he had been told that he was weak and thin because he spent so much strength in remaining angry, and he wanted to be athletic—his manner became very gentle and respectful. As soon as he was fourteen, his father put him at work. He is now earning "good money."

I. S. was a nervous, dark-eyed fellow, bilious in appearance, and carrying always with him an air of well-feigned surprise, as if to say, "What have I done?" He was full of idle mischief. Unlike J. M., he was not foul-mouthed. He was funny. He would tease and tease, till his neighbor in desperation measured the distance between those black eyes with an all too-belligerent fist. And so I. S. frequently was in deep waters. The father did not have to be sent for. He would come in high dudgeon to discipline the school. He was for punishing I's antagonist then and there. Matching the father's ire with calm, the principal asked to be heard, and waxing warm with indignation asked the father what would happen to his boy if he played those tricks upon boys anywhere else but in school. Would he not be worse used? Far worse. He might be thankful that the school protected I. Let him beware! I. would soon go out into the great world and have all his ardor for nagging well pummeled out of him. And the father saw the point. He was full of apologies. He took his son home and administered some very necessary discipline. I. S. rather respected his associates thereafter. He is now a very useful member of the larger society outside the school. Not only has he been saved, but each of his two smaller brothers who were going the wrong way. The grateful father frequently calls and speaks with warmth of the good the school is doing to his boys.

J. M. also has a younger brother who was being led astray, but is now a model boy, standing among the first in his class.

S. V. was the Leader of the Gang. He had just been released from a disciplinary school, after two commitments. He had had the splendid experience of several summons to the Children's Court

for theft and vagrancy. He may be described as bull-headed, with a shock of curly hair, his blouse buttonless and ragged, his shoes and stockings full of gutter mud, his speech thick and lispy, his whole bearing rowdyish and evil-knowing. Words foul and shocking often exploded through those thick lips, when he was crossed in his evil purposes. His foot, his hand, his bull head were kept busy doing things to annoy. Whatever papers he received, he would manage to misuse, because he knew nothing and wanted to brave it out. Added to his other faults he had a sour expression except when he succeeded in exasperating teacher or mates, when his thick lips would be stretched thin with a most repulsive leer. If S. V. waved his hand the boys were ready to stop work, lay down pens, face the teacher with an acted "Now what will you do?" and wait for S. V. to give further signals. It required too much strength and vigilance on the teacher's part to frustrate him. No respectable method of talking and reasoning with him had any effect. There is a black hand scrawl, and a lead-headed cane in the principal's office, which S. V. could tell a story about, if he cared. There seemed no way of reaching S. V. His gentle little mother begged us to be patient with him. But the principal believed he would be better off at the reform school. "No! no! no! not that!" cried the mother, covering her face with her hands. The boy's face turned ashen at his mother's distress. "Get down on your knees and kiss the principal's hand and ask forgiveness," said she, and forced him to this act, which he performed with streaming eyes and quivering lips. And that was the handle to S. V. His respect and love for his mother, whom he would please even at the cost of his pride. To the infinite surprise of his teacher, who once more received him, he was a changed boy from that day. He too had been so warped in his intellectual nature that he was put at work when fourteen, but he left the school with an A record in deportment. No word picture can paint the transformation of S. V.

H. S. is a little, underfed, arid looking boy with truant habits, light fingers, evil thoughts. He is still in the rough. He thinks the world and all in it against him. He is idle, he has money which his poor appearance belies his right to have. He says it doesn't matter what becomes of him. He seems utterly blasè. For a year he has been a problem, offending, being disciplined, being reinstated. He is the boy whose home is but a shelter. When he is in trouble his father begs for a transfer. But the principal will not transfer a boy with a cloudy record. He must make his peace with his teacher first. (It is found that as soon as peace reigns the desire for transfer wanes.) But H. S. though still troubling has the reasoning instinct of a Schopenhauer. He may be reported for defiance of his teacher's orders. He is brought in at white heat, his black eyes fairly giving out sparks. His first duty is to sit still. He gradually reflects. Then he can be reasoned with. Why disobey? So foolish. Does he think he can get along in business without obeying his superiors? His teacher has to obey her superiors, the principal, the assistant. The principal has to obey the superintendent, and even the superintendent must be directed by the Board of Education. Now will he do, as all respectable citizens do; obey his teacher, because then he is also doing as the principal wishes. Yes, he will, but it is hard. He hates it. But he must. And he does. His marks used to be the lowest that could be given; at the present writing, February 1st, his teacher recommends him for promotion. But, I riterate, H. S. is still in the mak-

ing. The start is like the slow launching of a great ship, scarcely seen, but surely felt. May it be a steady move forward and a straight course along right doing!

H. H. was one of the neglected waifs whose father and mother had given him up, and called no use. So it seemed. Jealous to an extreme degree, if the teacher in the hurry of the lesson neglected to call on him, he would calmly walk out of the room regardless of all comment, or question or warning of his teacher. Repeated questions finally elicited from him the fact that he felt hurt at not being called on. The astonished teacher was not conscious of the oversight. Then H. H. was given to understand that he might take it as a compliment if he were not called on, because the teacher felt sure he knew the answers, because he was smart. It was the slow or lazy boys a teacher had to call on often. To see H. H. beam at this information was exhilarating. Since then he takes neglect more patiently.

We have trouble, of course, with the indulgent parent—the parent who bribes his boy to be good and to go to school by giving him a "penny" in the morning and at noon. C. F. had such a father. And C. F. consumed pens which he did not buy almost faster than high colored candy which he did buy. Three days in succession C. F. either lost or destroyed a Board of Education pen, and then the teacher refused to be kind any more. She bade him buy pens instead of candy. C. F. ran home and told—something—hardly the truth. The father came in a bibulous condition, to discipline the teacher. But he was directed to the principal's office. After a very loud-spoken introduction as to his business at school, he was requested to be seated, and the teacher called to explain. It is the principal's policy to have the boy state his complaint in the presence of his teacher so that she may verify or deny his statements. In three minutes' talk it was self-evident C. F. had told some ten lies which he was compelled to recall, because questioning elicited very different circumstances than his first story pictured. The father was dumbly surprised at his offspring. He mourned that he "tried the best" for his children. He asked C. F. if ever a day went by without the reward of "penny" morning and noon. Then it dawned upon the principal why C. F. was a trouble. He could be good only when bribed. The boy was sent to his class with instructions as to how he must conduct himself in class. The teacher was bowed out. Then the principal pleaded that the "penny" be withheld for a week or more to see if C. could keep a stiff back bone. The father consented. Also, the principal asked if C. F. might not be supervised a little as to keeping clean and neat. The father would say "That is his mother's responsibility." And how many children had he? Seven, all small. Might it not help her a little to have the father take an interest in how the boy looked? To be sure. Why, yes. He would have an eye to C. and keep him up to the mark.

The outcome was, that the father, full of anger when he came, left in the happiest frame of mind, and C. F. improved from that day. The visitor's attention is occasionally called to a boy in a dark blue serge suit, fleckless, and a decidedly high stiff collar with a red tie. His face is clean. So are his hands. His shoes have a high polish. He walks by like a major. That is C. F. to-day, the once shambling, unkempt, unwashed boy whose pockets were sure to be sticky.

M. G. could not be persuaded to do his work. He was always angrily argumentative. If the lesson was reading he never knew the place. Most likely

his work would be upside down. Given an example from dictation, if he failed to hear a word, he would lay down his pencil.

He told his mother that "she" wouldn't teach him the new work when he lost it by absence. The mother came; she wanted the teacher punished. She was going to move out of this neighborhood. It was—well—the prevailing slang for bad. But the school, that was the *worst* she had ever known. The principal, somewhat astonished, inspected the boy's transfer card, and observed his checkered career. Five schools, no less had endeavored to do well by M. G. The principal then made it clear to the mother that M. had worn out his teacher, and must be placed in another room. No! no! he was all right in his class. He *liked* it. Only she must *teach* him. Of course she had, so far as he would. And to another class he must go. Or, would she wish him reported to the superintendent. A shame indeed! No, she would consent to the other class. So M. G. went, and before the mother left the school she was plainly told that if she wished M. G. to be well-behaved in school she must make him respect it. She must defend it when he abused it. She must, when he complained, put on her hat and coat and call at the school to get the other side. She agreed to do this. M. G. has so far ceased from troubling. He takes an excellent report home daily. The handle to that boy was and is "Mother's co-operation with the school." Nothing is more necessary than team work between home and school. They must pull together.

One could fill page after page with anecdotes—a dozen or more rise up in a moment, but the above are types. The conquest of the boy must follow a close study of him, and an innate feeling that back of all the crust of lawlessness is a vulnerable sensitive something that must be touched. The problem is to find what it is. We can no more use the same method with ten apparently similar cases, than we can repeat exactly the actions of any one day. Circumstances must shape method.

A beautiful book may touch one bad boy's heart, the price of a breakfast another's, praise of his fine appearance another's, interest in his outside life, another's.

Just one story more, and the most inspiring of all. A. L. was a little red-faced, straight-haired boy who was gloriously fond of fighting. He carried this fondness into the classroom, now and again. And thus the principal found him one day, gripping his opponent in a bearish hug, while the helpless teacher endeavored to separate them. The appearance of an outsider created a hush, the little fighter's shoulders were soon surrounded by a stronger arm and the boy was conducted in silence to the office. As office duties constrained the principal, the boy was merely told to sit down and, if he liked, to study the pictures on the wall. So the tear-wet eyes, after a little roving, finally fixed themselves on the picture of Sir Galahad. There was silence except for the scratching of the principal's pen. An occasional look at the little fighter revealed him, face upturned viewing that picture with a rapt expression.

The letter finished, the principal called the boy's name softly. He turned a very muddy tear-stained face and waited to be spoken to again. He was asked: Do you like the picture? Is the man a soldier? Does he look brave and as if he could fight? Is he strong? Then followed the story of the good, brave knight and A. L. is asked if he hopes to grow up brave, kind. This fighter was sent out to fight for truth and right. So different from fighting in anger. A. L. listens. Then he is told to bathe his

face and hands, to lay his tumbled locks as well as he can, and to button his blouse and coat which were almost dragged off in the scuffle. No question was asked about why he had fought. That were best forgotten. Made as presentable as possible, he was asked if he would not like to return to his class. Perhaps his teacher would receive him again if he asked to be forgiven. Yes, he wanted to go back, and he very meekly asked to be forgiven. Then the principal left him in his environment, his seat, his mates, his teacher, the four walls—he was engulfed—and in the multitude of duties his case faded into the haziness of the seldom called-up memories. A month or more later the teacher asked, "What *did* you say or do to A. L. to make him change so. He is an A boy now. I *never* have to speak to him." Well, perhaps I ought not to keep the secret any longer, A. L. is not with us now, but reports of him are certainly creditable. He *never* lapsed while he remained with us.

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By PRINCIPAL AND TEACHERS

P. S. 150, Brooklyn.

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5A ARITHMETIC.

By Lillian C. Briton.

First Week.

ORAL.

Business Fractions,
$ 1/2, 1/3, 2/3, 1/4, 3/4, 1/5, 2/5.

Reduce to lowest terms,
6/8—9/12—12/16—9/21—18/24, etc.

Reduce to higher denominations,
3/7 = ?/21 3/4 = ?/12 4/9 = ?/36, etc.

Teach term *factors.*

Factors are numbers which when multiplied together produce another number.

Give 2 factors of 24, 36, 4, 9, 8, 40, 48, etc. $1/2 = ? c. ? $.80 is what part of $?

Teach terms *prime number* and *prime factors.*

A number that has no factors except itself and 1 is a *prime number.*

Prime factors of a number are factors which are prime numbers.

Find prime numbers 1 — 20, 20 — 30, etc.

Prime factors of 8(2 x 2 x 2); of 12(2 x 2 x 3), etc.

WRITTEN.

Notation and numeration of decimals of 3 orders.

Multiplying an integer by a mixed number. 117
x 23 2/9

Multiplying a mixed number by an integer. 319 2/3
x 46

Second Week.

ORAL.

Business Fractions $2/5, $3/5, $4/5, $2/5 = ?c. 80c is what part of a $?

Problems in liquid measure. 4 pts. is what part of a gallon?

Change mixed numbers to improper fractions: 3 7/8, 7 4/5, etc.

Change improper fractions to mixed numbers. 39/7, 48/9, etc.

Teach term *multiple.*

A number that contains another number an exact number of times is a *multiple* of that number.

24, 36, 48, etc., are multiples of 4, 12, 6, etc.

WRITTEN.

Change mixed numbers to improper fractions. 282 9/23 = 6495/23, etc.

Change improper fractions to mixed numbers. 3847/16 = 240 7/16.

Teach Least Common Multiple.

The smallest number that is a multiple

of 2 or more numbers is called the *least common multiple.*

Find L. C. M. of 2, 4, 6, 8.

2) 2 - 4 - 6 - 8
2) 2 - 3 - 4
2)3 - 4
3 - 2

L. C. M. = 2 × 2 × 3 × 2 = 24.

Apply least common multiple to addition and subtraction of mixed numbers. (No denominator higher than 60.)

463 1/3	142 5/6
— 27 3/4	419 7/8
	14 1/3
	46 1/2

Third Week.

ORAL.

Business Fractions. $1/6, 5/6.

At 26 2/3c. each, cost of 24 books? 18? etc.

Review dry measure.

In 1/2 bushel, how many pecks, etc.?

Addition of simple fractions.

1/2 + 1/3 = ? 1/3 + 1/4 = ? 1/3 + 1/2 = ? etc.

Subtraction of simple fractions:

2/3 — 1/2 = ? 3/4 — 1/3 = ? etc.

Cost to frame a picture 6 ft. long by 2 ft. wide @ 50c a ft.?

Cost to frame a picture 4 ft. long by 1 1/2 ft. wide @ 20c a ft.?

(Diagram used in *all* measurement examples.)

WRITTEN.

Addition of decimals of 3 orders.

Subtraction of decimals of 3 orders.

17.305	1974.204
192.002	— 1148.889
41.06	
.570	
63.9	

Least common multiple applied to addition and subtraction of mixed numbers. No denominator to be greater than 100.

Introduce cancellation.

Cancellation is the striking out of common factors from the divisor and the dividend.

1. Multiplying a fraction by an integer. 4/5 × 10 = ? 6/7 × 14 = ?

2. Multiplying a fraction by a fraction. 4/9 × 1/2 = 6/7 × 2/3 =

Fourth Week.

ORAL.

Business Fractions $ 1/8, $3/8.

Cost of articles @ 12 1/2c, 20c, 25c, etc.

Cost of articles $1.33 1/3, $1.40, $1.37 1/2, etc.

Review *time* measure.

In 4 weeks how many days?

How many months in 20 weeks?

Cost to gild a frame 8 ft. by 3 ft. @ 50c a yd.?

WRITTEN.

1. Least common multiple continued in the addition and subtraction of mixed numbers.

2. Addition and subtraction of decimals of 3 orders continued.

3. Cancellation continued.

a. Multiplying a fraction by a fraction, 2/3 x 3/10.

b. Multiplying an integer by a fraction, 117 x 2/9.

c. Multiplying a mixed number by a fraction, 6 1/8 x 4/7.

Cost to fence a field 170 ft. by 36 ft. at $1.75 a yd.?

Brooklyn, New York City,
Jan. 10, 1912.

Mr. William Harvey,
305 Greene Ave.,
Bought of Richard Glover,
1783 Fulton St.,
Dealer in Groceries.

Jan. 2	3 cans corn	$.10	.30
" 4	2 pkgs. starch	.12	.24
" 8	2 lbs. tea	.75	1.50
" "	3 lbs. coffee	.40	1.20
			3.24

Received payment, Jan. 10, 1912.
Richard Glover,
per (pupil's name).

Fifth Week.

ORAL.

Business Fractions $ 5/8, $ 7/8.

Cost of article @ $1.60, $1.62 1/2 each, etc.

Area of a rectangle 9 ft. by 7 ft. (in sq. ft.) etc.

Area of a rectangle 6 ft. by 3 ft. (in sq. ft.) etc.

Prime numbers between 30 and 40.

Prime numbers between 40 and 50, etc.

Reduce to lowest terms 20/25, 40/45, 36/48, etc.

WRITTEN.

1. Addition and subtraction of mixed numbers continued.

2. Addition and subtraction of decimals of 3 orders continued.

3. Cancellation continued.

a. Multiplying mixed number by an integer 2 1/3 × 12.

b. Multiplying mixed number by a fraction 2 1/3 × 3/14 =

c. Multiplying mixed number by a mixed number 4 1/5 × 3 4/7 =

d. Multiplying several fractions 2/3 × 6/9 × 9/16 × 4/8 =

e. Miscellaneous 12 × 3/4 × 8 × 1/2 × 3 2/3 =

4. Bills of 4 items. See preceding model. Use type containing no fractions in quantity or price; e. g., 5 lbs. tea at 60c.

Sixth Week.

ORAL.

Business Fractions $ 1/12, $ 1/16.

At 8 1/3c each, cost of 24 books? etc.

Review *square* measure.

In 1/2 sq. ft., how many sq. inches?

How many sq. inches in 2 sq. ft.? etc.

Denominate numbers, liquid, dry, square and linear measure.

How many pts. in 1/2 gal., 3/4 gal.?

How many inches in 2 yds.? 4 yds., etc.

Least common multiple of

2, 3, 4 3, 4, 6 4, 5, 2

Area of rectangle 9 ft. by 3 ft. and 8 ft. by 6 ft. in sq. yd.

WRITTEN.

1. Finding area of surfaces in square feet and in square yards; e. g.:

Area of a floor 18 ft. long and 12 ft. wide?

Area of a floor 20 yds. long and 15 yds. wide?

Area of a field 70 yds. long and 90 ft. wide?

2. Multiplying a decimal by an integer.

.42	.708	2.64
x 6	x 8	x 42

3. Multiplying an integer by a decimal.

842	602	822
x .23	x .43	x 1.03

Sixth Week.

Addition and subtraction of decimals of 3 orders.

Bills. Introducing business fractions in prices, cost of items computed by cancellation; e. g.: 16 books @ $1.12½ each, 9 pictures @ $1.33 1/3 each.

Seventh Week.

ORAL.

Review dozen, ounce, pound.

How many books in 3 1/2 dozen?

How many ounces in 4 lbs.?

How many pounds in 40 ounces? etc.

Reduce to lowest terms 60/72, 24/108, etc.

At 2 for 5c, how many for 25c? etc.

Teach *common* factors.

A common factor of two or more numbers that is a number that will divide each of them without remainder.

Common factors of 20 and 25; 9 and 15.

Common factors of 16 and 24; 21 and 28.

WRITTEN.

Finding cost of areas.

Cost to lay linoleum on floor 12 yd. by 15 yd. @ $1.33 1/3 a sq. yd.

(In these examples always have diagram and statement.)

Reducing fractions to lowest terms by inspection.

144/168 = 72/84 = 36/42 = 18/21 = 6/7

512/640 = 256/320 = 128/160 = 64/80 = 32/40 = 16/20 = 8/10 = 4/5

Eighth Week.

ORAL.

At the rate of 2 for 5c., cost of 12?

Change mixed numbers to improper fractions, 8 5/8, 7 7/9, 4 6/7, etc.

Change improper fractions to mixed numbers, 85/9, 73/8, 65/9, etc.

Teach circular measure.—Uses.

Introduce in latitude and longitude.

Circle divided into segments (R. angles), 360° = 1 circle — ; right-angle = 90°.

Have children find latitude and longitude of places, and draw right angles.

WRITTEN.

Finding cost of areas.

Cost to plaster a ceiling 72 ft. by 36 ft. @ $1.62 1/2 sq. yd. Solve by cancellation.

Teach greatest common divisor. Apply to reduction of fractions to lowest terms.

G. C. D. of 115 and 161.

```
        1
      ----
115)161
    115   2
  ------------
   46)115
       92   2
     ------
G. C. D. 23)46
           46
          ----
```

Reduce 115/161 to L. T.

```
          5
        ----
    23)115
       115
      ----
         7
      ----
    23)161
       161
      ----
```

115/161 = 5/7 L. T.

Ninth Week.

ORAL.

If 1/3 yd. cost 9c, cost of 1 yd.?

If 4/5 yd. cost 16c, cost of 1 yd.?

Finding a part of a quantity, e. g., 1/2 of 2, 1/3 of 9, 2/3 of 24, etc.

Review business fractions. At $1.25 each, cost of 24 books?

Review square measure. How many square inches in 2/3 sq. ft.?

WRITTEN.

Review addition and subtraction of decimals, addition and subtraction of mixed numbers, and cancellation.

Solve the following by cancellation:

1. At $1.25 per yd., cost of 248 yds. silk?

2. At $1.331/3 each, cost of 417 books?

Finding a part of a quantity.

Find 4/5 of 375 etc.

How much is 3/4 of 256?

Bills. Introducing fractions in quantities; e. g., 91/2 lbs. sugar @ 5c per lb.

Tenth Week.

ORAL.

1. What part of 10 is 5? Of 18 is 12? Of 24 is 16?

2. Mary had 12c. Lost 3c. What part lost?

3. If 1 doz. oranges cost 72c, cost of 4?

Least common multiple of 3, 5, 2; 4, 6, 8, etc.

Prime numbers between 50 and 60; 60 and 80, etc.

At $1.12 1/2 each, cost of 24 books?

WRITTEN.

Review.

1. Reducing fractions to lowest terms by greatest common divisor.

2. Finding cost of areas.

3. Perimeter of figures.

(The sum of all the sides of a figure is called its perimeter.)

Teach finding what part one quantity is of another.

$385 is what part of $595? etc.

Eleventh Week.

ORAL.

Addition of simple fractions.

2/3 + 1/4 =

1/2 + 1/3 =

Subtraction of simple fractions.

1/2 — 1/3 =

2/3 — 1/2 =

Review examples of these types:

1. How many ft. around a window 8 ft. long & 3 ft. wide?

2. How many inches in 1 1/2 yds? 2 1/4 yds? etc.

3. 60c is what part of a $? 1/16=how many c.

4. How many pts. in 4 qts. 2 pts.? etc.

WRITTEN.

Teach clearing parentheses.

(8 3/16 + 6 2/3) — (8 3/6 — 6 2/3)=

(3 5/12×36)×8 3/7=

1/3 of (3 1/2+6 1/4)=

(2 1/3+4 1/2)×(4 1/2—2 1/3)=

(7 5/8—3 1/6)÷3 3/4=

REVIEW.

Review examples of this type:

1. Dealer sold 25 3/4 lbs., 45 3/8 lbs., 62 1/2 lbs., 22 5/6 lbs. How many lbs. sold altogether?

2. There were 635 3/8 gals. of water in a tank. 387 5/6 gals. were emptied. How many gallons remained?

3. At $2.37 1/2 a yd., cost of 488 yds. silk? (By cancellation.)

Bills. Introducing purchase of single quantity requiring no multiplication to find cost; e. g., case corn @ $3.00, etc.

Twelfth Week.

ORAL.

1.50 — 24 2/3 =, 90 — 36 3/4 =, 60 — 45 5/6 =, 60 — 49 4/5, etc.

2. 15 × 2/3 =, 9 × 2/3 × 16 × 3/4 =, 2/3 × 24 =, etc.

3. At 4c per pt., cost of 3 qts., 1 pt. milk?

4. What part of a $ is 83 1/3c, 87 1/2c, 20c? etc.

5. Reduce to lowest terms 72/84, 63/84, 48/60, etc.

6. How many pks. in 3 bushels? etc.

7. How many qts. in 2 bushels? etc.

WRITTEN.

Review.

1. Multiply integer by a mixed number.

2. Multiply mixed number by an integer.

3. Addition of decimals.

4. Subtraction of decimals.

Teach division of decimals by integers.

1/2 of 2/10 = 1/10.

1/2 of .2 = .1.

or 2).2

—

.1

.42 ÷ 2 =
.74 ÷ 2 =
.09 ÷ 3 =
.064 ÷ 8 =
.784 ÷ 4 =

Thirteenth Week.

ORAL.

Examples of these types.

1. Change to improper fractions 5 7/9, 7 3/8, 16 1/3, etc.

2. Change to mixed numbers.

69/10, 85/7, 39/8 =

3. How many ft. or yds. of moulding around a room 8 yds. long and 12 ft. wide?

4. How many ft. in 5 yds. 6 2/3 yds. 9 1/3 yds.?

5. How many yds. in 65 ft., 90 ft., 47 ft.? etc.

6. At 12 1/2c each, cost of 2 dozen?

7. $1/2 + 3 dimes = how many cents?

WRITTEN.

Review.

1. Change mixed numbers to improper fractions.

2. Change improper fractions to mixed numbers.

Teach.

1. To the difference of 2 numbers, add their sum, e. g.

To the difference of 83 1/2 and 25, add their sum.

2. From the sum of 2 numbers subtract their difference, e. g.

From the sum of 142 2/3 and 76, subtract their difference.

Bills. In which total, such as $4.87 1/2, is reckoned as $4.88.

Fourteenth Week.

ORAL.

1. At 16 2/3c. each, how many books can I buy for $8?

2. Cost of articles @ $1.16 2/3, $1.37 1/2 each, etc.?

3. Area of a rug 12 ft. long and 9 ft. wide = ?

4. Area of a rug 16 ft. long and 12 ft. wide = ?

5. Greatest common divisor of 45 and 60, 25 and 75, 48 and 16, etc.

6. Least common multiple of 3, 6, 9; 5, 10, 25; etc.

WRITTEN.

Review.

Multiplying decimal by an integer.

Multiplying integer by a decimal.

Reducing fraction to lowest terms by greatest common divisor.

Teach division of fractions.

1. Dividing integer by a fraction, 8 ÷ 4/5 =

2. Dividing fraction by an integer 9/16 ÷ 3 =

Bills. Introducing fractions in price and quantity; e. g., cost of 3 1/2 lbs. sugar @ 5 1/2c per lb.

Fifteenth Week.

ORAL.

If 8 calendars cost 96c, cost of 7?

At 3 per pt., cost of 3 qts. oil?

Review. Liquid, square, circular measures, and business fractions.

How many pts. in 7 gals., 3 1/2 gals., etc.

How many sq. ft. in 9 sq. yds.? 3 sq. yds.? etc.

At $1.66 2/3 each, cost of 16 books?

How many degrees in 1/2 circle? in right angle?

WRITTEN.

Review.

Addition and subtraction of decimals.

Finding cost of areas.

Division of decimals, continued.

1. Dividing a fraction by a fraction 9/16 ÷ 3/4

2. Dividing a mixed number by an integer, 15 4/11 ÷ 13

3. Dividing a mixed number by a fraction, 8 5/24 ÷ 11/24

4. Dividing a mixed number by a mixed number, 9 7/9 ÷ 3 1/9

5. Miscellaneous, 3/8×5/6÷2/3÷3/4=; 7/10×5/8÷2 1/2÷4÷1/5=

Solve by cancellation.

Sixteenth Week.

ORAL.

1. 1/2 of a number is 10. What is the number?

2. If 3/4 a pie cost 15c, cost of whole pie?

3. 12c is 3/5 of my money. How much money have I?

4. Reduce to lowest terms, 65/80 — 25/45 — 27/45, etc.

5. 3/4 = how many hundredths — 2/3? etc.

6. Change 8 gallons to qts., to pts.

7. Change 4 bushels to pks., to qts., to pts.

WRITTEN.

Teach changing decimals to fractions. .4 = 4/10 = 2/5. .75 = 75/100 = 3/4, etc.

.075, .375, .625, etc.

Teach finding a quantity when a part is given, e. g.

If 2/3 of a farm cost $800, what is value of farm?

Introduce division of fractions in problems.

If 7 pairs of shoes cost $12 1/4, how much will 1 pr. cost?

$12 1/4 ÷ 7 = $12 1/4 × 1/7.

Then, by cancellation, $3/4 per pair, answer.

Bills. Miscellaneous items:

Seventeenth Week.

ORAL.

1. If apples are 2 for 7c, how many for 63c?

2. Greatest common divisor of 14 and 21, 14 and 35, 60 and 48, etc.

3. 2 qts. is what part of 7 qts.?

4. $7 is what part of $42? etc.

5. Cost of articles @ $1.12 1/2, $1.62 1/2, $1.80 each, etc.

6. What number multiplied by 7 equals 217? etc.

7. Cost to gild a picture 9 ft. by 3 ft. at 20c a yd.?

WRITTEN.

Review.

Clearing parentheses (8 1/2 + 4 1/4) ÷ (2 1/2 + 1 3/4).

Cancellation:

7/8 × 16/21 × 9/14 × 42/12 =

To the difference of 127 and 95 5/8, add their sum.

From the sum of 127 and 95 5/8, subtract their difference.

Teach changing fractions to decimals.

3/5 = 3 ÷ 5 = 5)3.0

—— = .6

.6

2/5—1/4—3/20—1/8—3/40–9/25– 9/225. etc.

Eighteenth Week.

ORAL.

1. I 4 oranges cost 7c, cost of 16?

2. Had $1. Spent $5/6. How many cents left?

3. Review dozen, ounce, pound.

4. If 3/4 yd. cost 18c, cost of 2 yds?

5. What is 2/3 of 24, of 69, of 48? etc.

6. Change 100/7, 98/5, 49/8, etc, to a mixed number.

7. Add $1/2, $1/4 — $1/3. $1/4 + 3 dimes = how many cents?

WRITTEN.

Review, in problem form, the following type examples:

1. Horse traveled 48 3/10 mi., 56 3/4 mi., 40 5/8 mi., 45 17/20 mi. How many miles in the 4 days?

2. From a bolt of 58 1/3 yds., 39 7/12 yds. were sold. Yds. left?

$975 is what part of $1,890?

3. Change .625 of a ton to the fraction of a ton.

275	.668
X.154	X325

Bills. Miscellaneous items.

Nineteenth Week.

ORAL.

Review problems of these types.

What part of 25 is 10? Of 55 is 22? etc.

Had $20. Spent $8. What part left?

If 1 dozen oranges cost 36c, cost of 3?

If 2/5 of my money = 8c, how much have I?

If 2 feet ribbons cost 30c, cost per yard?

WRITTEN.

Review problems of following types.

1. Cost to plaster a ceiling 36 ft. wide by 45 ft. long @ $1.50 sq. yd.? Cancel to find $270 cost.

2. Reduce 625/750 of a mile to lowest terms (fractional).

3. One dealer sold 235 lbs. sugar in one week. Another sold 2 7/8 times as much. How much sold?

5. 375 miles is what part of 640 miles?

Bills. Miscellaneous items.

Twentieth Week.

Review, in problems, liquid, dry, square, linear, cubic, avoirdupois measures.

How many gallons in 60 pints?

How many bushels in 49 pecks?

How many rods in 3 acres?

How many cubic inches in 1/2 cubic foot?

Cost of 1 1/2 lbs. tea @ 5c per ounce?

WRITTEN.

Review.

1. Changing improper fractions to mixed numbers, 8937/25.

2. Changing mixed numbers to improper fractions, 785 23/85.

3. Finding a quantity when a part is given.

4. If 7/8 of a vessel cost $14,000, value of entire vessel?

5. If 15 books cost $37 1/2, cost per book?

6. Other problems which require drill.

Bills, miscellaneous items.

5A GEOGRAPHY.

By Lillian L. Johnston.

First Week.

THE EARTH.

Review shape and size of the earth.

SHAPE—Round.

SIZE—Circumference 25,000 miles.
Diameter 8,000

TWO PROOFS OF ROTUNDITY.

1. When a ship sails away from shore, it steadily disappears below the horizon. The hull disappears first, and the top mast, last.

2. If a person starts from a certain place and keeps traveling in the same general direction, he will finally arrive at the same place from which he started.

Review axis, poles, motions, equator, prime meridian, zones and their boundaries.

AXIS. The axis of the earth is an imaginary line around which the earth spins.

POLES. The poles of the earth are the ends of the axis.

MOTIONS. The earth has two motions —the daily and the yearly.

DAILY MOTION. Day and night is caused by the rotation or spinning of the earth on its axis. The earth turns on its axis once every day or every twenty-four hours.

YEARLY MOTION. Change of seasons. The change of seasons is caused by the inclination of the earth's axis and the

revolution of the earth around the sun. The earth makes its journey around the sun once a year or every 365 days.

EQUATOR. The equator is an imaginary line extending around the earth halfway between the poles.

ZONES.

North Frigid.

North Temperate

Torrid.

South Temperate.

South Frigid.

The North Frigid extends from the North Pole to the Arctic Circle.

The North Temperate zone extends from the Arctic Circle to the Tropic of Cancer.

The Torrid zone extends from the Tropic of Cancer to the Tropic of Capricorn.

The South Temperate zone extends from the Tropic of Capricorn to the Anarctic Circle.

The South Frigid zone extends from the Anarctic Circle to the South Pole.

SEASONS. Duration in different zones.

The seasons in the temperate zones are neither very hot nor very cold, and each season is three months in length.

On March 21, the sun is directly over the equator and rises exactly in the east and sets exactly in the west. The days and nights are then each twelve hours long.

On June 21, the sun is directly over the Tropic of Cancer. On this day, the longest of our year, the time from sunrise to sunset in New York is about fifteen hours.

On September 21, day and night will be of equal length as on March 21.

On December 21, the sun is directly over the Tropic of Capricorn. On this day, the shortest of the year, the time from sunrise to sunset is about nine hours.

The seasons in the torrid zone.

The nights and days are nearly the same in length throughout the year. The rainy season north of the equator extends from April to October. This period is called the wet season. From October to April there is a little rain and this period is called the dry season.

South of the equator the reverse is true.

The seasons in the frigid zones.

There are two seasons called summer and winter. The summer lasts during the months of July and August. The sun sets in October when the winter season begins. The only light is that from the moon and stars, and the weather is intensely cold. When the new year begins, the rays of the sun light up the sky. From now on the day gradually lengthens.

Food, occupations, and dress of man in each zone.

Reference: Geography by Grades, by H. B. Niver, pages 3 to 8.

Second Week.

Illustrate by means of a ball, orange, or globe large and small circles.

Two meridians drawn exactly opposite each other form a circle, called a meridian circle. Meridian circles and the equator are great circles.

Circles drawn around the earth from east to west and parallel to the equator are called small circles. These are called parallels of latitude.

Division of circles into degrees. Every circle, large or small is divided into 360 equal parts called degrees. The length of a degree measured on the equator, a great circle, is 69 1/2 miles. The length of a degree measured on any of the parallels, small circles, would be smaller as we near the poles.

LATITUDE.

The streets and avenues of a city help

us to locate buildings. At times we wish to locate places on the earth. Thus the meridians and parallels of the earth can be compared with the avenues and streets of a city.

TO BE MEMORIZED.

Distance measured in degrees on the earth's surface north or south of the equator is called latitude.

If the distance is north of the equator it is called north latitude; if south of the equator it is called south latitude. The distance from the equator to the north pole is ninety degrees; from the equator to the south pole is ninety degrees.

TO BE MEMORIZED.

Drill on the use of latitude.

Longitude. Memorize: *Distance measured in degrees east or west of the prime meridian is called longitude.*

The meridian which passes through Greenwich, a place near London, has been chosen as the prime meridian. If a place is east of the meridian of Greenwhich it is so many degrees east longitude; if west it is so many degrees west longitude.

Find latitude and longitude of places to show that both are necessary for accurate location.

Third Week.

NORTH AMERICA.

LOCATION. Location as determined by latitude and longitude and with reference to surrounding waters and countries.

LATITUDE.

LONGITUDE.

SURROUNDING WATERS.

Arctic Ocean	Caribbean Sea
Atlantic Ocean.	Pacific Ocean
Gulf of Mexico	Bering Sea

COUNTRIES.

North America is west of Europe.

North America is northwest of South America.

North America is east of Asia.

SIZE. North America is third among the continents.

SHAPE. Triangular.

COASTLINE. The northern and eastern coasts are very irregular; the western and southern coasts are more regular.

Effect upon commerce. The deep inlets and peninsulas furnish excellent harbors.

ZONES. North Frigid
North Temperate
Torrid

Bordering islands.

Greenland	West Indies
Iceland	Cuba

Fourth Week.

PENINSULAS.

Alaska	Florida
Labrador	Lower California
	Yucatan

GULFS.

St. Lawrence.
Mexico
California

BAYS.

Hudson
Baffin

STRAITS.

Bering
Davis
Florida

LAKES.

Five Great Lakes

Superior	Erie
Huron	Ontario
Michigan	Great Salt Lakes

SURFACE.

Mountain Systems

Appalachian—parallel with the Atlantic Coast

Cordilleras—parallel with the Pacific Coast.

Great Central Plain. Extends from

the Arctic Ocean to the Gulf of Mexico.

Coast Plains. Between the Appalachian mountains and the coast there is a plain called Atlantic coast plain. The lowland around the Gulf is called the Gulf coast plain.

Fifth Weeek.

MOUNTAIN RANGES.

Rocky	Cascade
Sierra Nevada	Coast

RIVER SYSTEMS.

Mississippi	Yukon
St. Lawrence	Hudson

IMPORTANT RIVERS.

Mackenzie	Colorado
Nelson	Columbia
Missouri	Ohio
Arkansas	Rio Grande
	Red

DRAINAGE.

Drainage of the Great Central Plain.

North—Mackenzie
Nelson

South—Mississippi
Ohio
Missouri
Arkansas
Red

Drainage of the Pacific Plain.
Colorado
Yukon
Columbia

Drainage of the Atlantic Plain.
St. Lawrence
Hudson

CLIMATE.

Eastern and western coasts compared.

Northern and southern part of the Great Central Plain compared.

Reference: Geography by Grades, by H. B. Niver, page 18.

Sixth Week.

COUNTRIES of NORTH AMERICA.

Canada
United States and Alaska
Mexico
Central America
Panama

IMPORTANT CITIES.

New York	St. Louis
Chicago	Montreal
Philadelphia	Mexico
Boston	Quebec
San Francisco	Panama

Seventh Week.

UNITED STATES.

LOCATION. Location as determined by latitude and longitude and with reference to neighboring countries.

LATITUDE. 25 degrees to 49 N. Latitude.

LONGITUDE.

NEIGHBORING COUNTRIES.

United States is south of Canada.
United States is north of Mexico.

ZONE. North Temperate

SIZE. United States is a little smaller than Europe.

COASTLINE. Eastern and southern coasts are irregular. The western coast is more regular.

SURFACE. Coast plain, Appalachian highlands, Great Central Plain, Western highlands.

MOUNTAIN SYSTEMS.

Appalachian
Rocky

MOUNTAIN RANGES.

Cascade	Blue Ridge
Coast Range	Catskill
Sierra Nevada	Adirondack

RIVER SYSTEMS.

Mississippi River

Hudson River
St. Lawrence River

IMPORTANT RIVERS.

Mississippi River
Missouri River
Arkansas River
Red River
Ohio River
Hudson River
Columbia River
Colorado River
Rio Grande River

PENINSULA. Florida.
GULF. Mexico.
STRAIT. Florida.
LAKES. Five Great Lakes.
Great Salt Lake.

Eighth Week.

IMPORTANT CITIES.

New York City, wealthiest city and first in the value of its industries.

Boston, a great manufacturing and commercial city. The second important seaport on the Atlantic coast.

Chicago, a great commercial city; a great railway center, second largest city in the United States.

Washington, capital of the United States.

New Orleans, greatest cotton market in the world.

Richmond, a great tobacco market.

Philadelphia, the greatest coal market in the United States.

St. Louis, the largest city in the Mississippi valley; it is noted for its transportation facilities by river and railroads.

Minneapolis, noted for its flour mills.

San Francisco, chief seaport on the Pacific coast.

Baltimore, a great manufacturing and commercial city.

CLIMATE. The United States varies in elevation and has nearly every variety of climate. As a result plans of both temperate and tropical regions are produced. The fertile soil, mines, forests, and fisheries enable the several sections of the country to supply their own needs as well as the needs of other sections without foreign aid.

AREAS OF PRODUCTION.

Agricultural Areas. Wheat and corn north central part; cotton, southern part.

Mining Areas. Gold and silver in Rocky mountains; copper around Great Lakes; coal, iron, oil in Appalachian mountains.

Manufacturing Areas. Flour, north-central part; cloth, northeastern part; pork and beef industries north central and central parts, Chicago, St. Louis, Cincinnati.

Ninth Week.

GOVERNMENT.

Republic.
Congress, members from each state.
President elected once in four years.
National Capital, Washington.

IMPORTS. Coffee, tea, silk, linen.

EXPORTS. Wheat, corn, pork, beef, sugar, cotton, gold, iron.

TRADE. United States carries on trade with

Great Britain	Japan
Germany	China
France	Canada
Russia	Brazil

Cuba.

REVIEW.

Tenth Week.

STUDY OF STATES—New York State as a unit of comparison.

MASSACHUSETTS.

Bay State—on account of its long, irregular coastline.

LOCATION. Northeastern part of United States.

SURROUNDING STATES.

Vermont, New Hampshire	North
New York	West
Connecticut, Rhode Island	South

SIZE. 1/6 of New York State.

MOUNTAINS. Berkshire Hills.

RIVERS. Connecticut.

CAPE. Cod.

BAYS. 1. Massachusetts.
2. Cape Cod.

CITIES.

Boston, capital. Largest city in New England. Second most important seaport on the Atlantic Coast. Famous for its historical associations.

Lowell, manufacturing of cotton and woolen goods.

CLIMATE. The winters are cold, but the summers are mild with plenty of rain.

Manufacturing.

Cotton and woolen goods, boots and shoes.

Fishing.

Cod and mackerel.

Farming.

Carried on in the valley of the Connecticut River.

NEW YORK STATE.

Empire State.

LOCATION. Northeastern part of the United States.

SURROUNDING STATES. Vermont, Massachusetts and Connecticut on the east; New Jersey and Pennsylvania on the south.

SIZE. 49,204 square miles.

MOUNTAINS.

Adirondack—covered with forests.
Allegheny Plateau.
Catskill Mountains.

RIVERS.

Hudson.
Mohawk.
St. Lawrence.

LAKES.

Ontario	Champlain
Erie	George

Hundreds of small lakes in the Adirondack region.

BAY. New York Bay.

ISILAND. Long Island.

SOUND. Long Island.

CITIES.

Albany, capital.

New York City, first city in America in wealth and in the value of its industries.

Buffalo, one of the best harbors on the Lakes.

Syracuse, salt deposits near by.

CLIMATE. The southern part of the state is moderate throughout the year. The northern part has a cold winter.

INDUSTRIES.

Manufacturing.

Paper from wood pulp. Clothing.

Farming.

Fruit-growing, apples, grapes.
Dairying—surpasses all states.
Brickmaking.

Eleventh Week.

NEW JERSEY.

Garden State.

SURROUNDING STATES. New York and Pennsylvania.

SIZE. About 1/6 size of New York State.

RIVERS.

Delaware.
Hudson

BAY.

Delaware.

CITIES.

Trenton, capital.
Newark, manufactures jewelry, rubber and leather goods.
Long Branch and Atlantic City, summer resorts.

INDUSTRIES.

Manufacturing—silk at Paterson.
Farming.
Mining—iron and zinc mines.

PENNSYLVANIA.

SURROUNDING STATES.

New York	Maryland
New Jersey	West Virginia
	Ohio

SIZE. Almost as large as New York.

MOUNTAINS. Appalachian.

RIVERS.

Delaware	Susquehanna
Ohio	Allegheny

CITIES.

Harrisburg, capital.
Philadelphia, third city in the value of its manufactures.

CLIMATE. Colder than New Jersey.

INDUSTRIES.

Manufacturing—carpets, rugs, iron, steel, glass.
Mining—coal.
Farming.

Twelfth Week.

MARYLAND.

Divided by Chesapeake Bay into eastern and western shores.

SURROUNDING STATES.

Pennsylvania	West Virginia
Delaware	Virginia

SIZE. 1/4 size of New York.

MOUNTAINS.

Appalachian in western part.

RIVERS.

Susquehanna.
Potomac.

BAY. Chesapeake.

CITIES.

Annapolis, capital.
Baltimore, well situated for trade.

CLIMATE. Eastern shore has a mild climate, western part has a cold climate.

INDUSTRIES.

Manufacturing—tin cans, clothing, tobacco.
Fishing—oysters.
Canning—oysters, fruits, vegetables.

DISTRICT OF COLUMBIA

It was given by the State of Maryland as a site for the capital city. It consists of seventy square miles. Washingtin is the most beautiful city in the Union.

VIRGINIA.

Tobacco growing state.

SURROUNDING STATES.

Maryland.
West Virginia.
North Carolina.

SIZE. Almost as large as New York.

MOUNTAINS.

Appalachian—Blue Ridge Range.

RIVERS.

Potomac.
James.

BAY. Chesapeake.

CITIES.

Richmond, capital, tobacco market.
Norfolk, good harbor on the Atlantic coast.

INDUSTRIES.

Farming.
Tobacco.
Peanuts.
Mining—coal.
Manufacturing of tobacco in every form.

Thirteenth Week.

GEORGIA.

SURROUNDING STATES.

Tennessee and North Carolina.
South Carolina.
Florida.
Alabama.

SIZE. Larger than New York.

MOUNTAINS.

Appalachian in northern part.

RIVER. Savannah.

CITIES.

Atlanta, capital.
Savannah, leading seaport.

CLIMATE. Warm.

INDUSTRIES.

Manufacturing—leading state in the South.
Farming tools.
Mining

Coal.	Graphite
Marble	Iron

Lumbering
Pine trees—naval stores.

FLORIDA.

Near the Torrid Zone.

SURROUNDING STATES.

Georgia and Alabama. Surrounded on three sides by Atlantic Ocean and Gulf of Mexico.

SIZE. Larger than New York.

SURFACE. No mountains. The southern end consists of a swamp called Everglades. There are many inland lakes and small islands near the coast called "keys."

RIVER. St. Johns.

CLIMATE. That of the tropics.

INDUSTRIES.

Farming.
Fruits, oranges, lemons, grape fruit.
Lumbering.
Naval stores.
Manufacturing—cigars.

CITIES.

Tallahassee, capital.
Tampa and Key West export cigars.
Jacksonville, lumber.

LOUISIANA.

SURROUNDING STATES.

Mississippi.
Arkansas.
Texas.

SIZE. Little smaller than New York.

SURFACE. Swampy around the Mississippi Delta and the Gulf of Mexico.

RIVERS. Red and Mississippi.

CITIES.

New Orleans, a great cotton market. The largest city in the South.
Baton Rouge, capital.

CLIMATE. Semi-tropical.

INDUSTRIES.

Farming.

Sugar cane.	Rice.
Cotton.	Corn.

Manufacturing—sugar refining, lumber.

Fourteenth Week.

TEXAS.

Largest state in the Union.

SURROUNDING STATES.

Louisiana — New Mexico
Arkansas — Mexico
Oklahoma

SIZE. Five times the size of New York.

SURFACE.

Tableland in the west.
Fertile prairie and moist lowland in the east.

RIVERS.

Red.
Rio Grande.

CITIES.

Austin, capital.
Galveston is the chief seaport; it ranks next to New Orleans as a cotton port.

CLIMATE. The climate grows drier as the distance from the coast increases, with colder winters and warmer summers.

INDUSTRIES.

Farming. 1/4 of all the cotton grown in the United States is raised in Texas.
Cattle raising.
Mining—coal.
Manufacturing.
Flour.
Cotton-seed oil.
Lumber.

MISSOURI.

Empire State of the West.

SURROUNDING STATES.

Iowa — Arkansas
Illinois — Kansas
Kentucky — Nebraska
Tennessee

SIZE. Larger than New York.

MOUNTAINS.

Ozark in the southern half of the State.

RIVERS.

Missouri.
Mississippi

CITIES.

Jefferson, capital.
St. Louis, the largest city in the Mississippi Valley. It is a great railroad center. It is noted for its commerce and wealth.

CLIMATE. Moist.

INDUSTRIES.

Manufacturing.
Packed meats.
Flour.
Tobacco.
Mining.
Coal, iron, lead, zinc.
Farming.
Grain, hay.
Commerce.
River and railroad.

ILLINOIS.

Prairie State.

SURROUNDING STATES.

Wisconsin — Missouri
Indiana — Iowa
Kentucky

SIZE. Larger than New York.

SURFACE. Level, grassy surface.

RIVERS.

Illinois
Ohio
Mississippi

LAKE. Michigan.

CITIES.

Springfield, capital.
Chicago, a great lake port; second largest city in America; a great railroad center.

INDUSTRIES.

Manufacturing. Packed meats, clothing, cars, iron and steel goods.

Mining. Two-thirds of the State consists of coal beds.
Farming. First state in food products.
Meat packing.

OHIO.

Wool producing State.

SURROUNDING STATES.

Michigan — West Virginia
Indiana — Pennsylvania
Kentucky

SIZE. Smaller than New York.
SURFACE. East and south are hilly; north and west are more level.

RIVER.

Ohio.

LAKE.

Erie.

CITIES.

Columbus, capital.
Cleveland, chief port on Lake Erie.

CLIMATE. Moist.

INDUSTRIES.

Farming—corn and oats.
Manufacturing—corn and farm machinery.
Sheep raising.

Fifteenth Week.

MINNESOTA.

Leading state in wheat.

SURROUNDING STATES:

Wisconsin.
Iowa.
North and South Dakota.
Canada.

SIZE. More than one and one-half size of New York.

SURFACE.

Northeast white pine forests.
West and south prairie land.

RIVERS.

Mississippi.
Red River of the North.

LAKE—Superior.

CITIES.

St. Paul, capital.
Minneapolis, leading city of the world in the manufacture of flour.

CLIMATE—Very cold in winter, moderate in summer.

INDUSTRIES.

Farming—Wheat, in the valley of the Red River.
Manufacturing—Flour and linseed oil.
Lumbering—White pine.
Mining—Iron ore, along the shore of Lake Superior.
Hunting.
Fishing.

COLORADO.

Famous for its dry climate and for its mines of gold and silver.

SURROUNDING STATES.

Wyoming, — New Mexico,
Nebraska, — Utah.
Kansas,

SIZE—Twice as large as New York.

SURFACE—Half of the state is mountainous. The highest peaks of the Rockies are found in Colorado.

RIVERS.

Arkansas.
Rio Grande.

CITIES.

Denver, capital. It is the largest interior city of the Western states.

INDUSTRIES.

Manufacturing—Iron and steel.
Farming—Fruits and vegetables in the valleys.
Mining—Silver, gold, lead and iron

CALIFORNIA.

Called "The Land of Fruits and Flowers."

SURROUNDING STATES.

Oregon, Arizona,
Nevada, Mexico.

SIZE—Three times New York State.

SURFACE—Sierra Nevada mountains are in the eastern part; Coast Range is in the western part. Between the two ranges lies the fertile valley of California.

RIVERS.

Sacramento.
Colorado.

CLIMATE—Mild throughout the year.

INDUSTRIES.

Mining—Quicksilver and gold.
Lumbering.
Farming.

Grapes, Figs,
Oranges, Peaches,
Olives, Pears.
Lemons,

Manufacturing—Wine.

CITIES.

Sacramento, capital.

San Francisco, chief seaport on the Pacific Ocean. Carries on trade with the eastern countries. Exports from San Francisco are grain, gruits, lumber, gold, silver.

WASHINGTON.

SURROUNDING STATES.

Oregon.
Idaho.
Canada.

SIZE—Larger than New York State.

SURFACE—Cascade mountains in the western part. The eastern part of the state is dry.

RIVER—Columbia.

SOUND—Puget Sound.

CITIES.

Olympia, capital.

Seattle, chief seaport. It is noted for its coal and lumber business.

INDUSTRIES.

Lumbering is most important industry.

Mining—Coal, lead and copper.

Fishing—Salmon in Columbia River and Puget Sound.

Sixteenth Week.

CANADA.

SURROUNDING COUNTRY.

United States.

SURROUNDING WATERS.

Arctic Ocean.
Atlantic Ocean.
Baffin Bay.
Davis Strait.

SIZE—Larger than United States.

ZONES.

North Frigid.
North Temperate.

CLIMATE—The northern part of Canada is cold. The southern part has a climate like that of the northern United States with cold winters and hot summers.

SURFACE—The western part is crossed by the Rocky Mountains; the eastern part of Canada consists of plateaus.

DRAINAGE.

Rivers.
Mackenzie.
Nelson.
St. Lawrence.
Great Lakes.

CITIES.

Ottawa, capital.

Montreal, largest city. As far up the river as ocean steamers can sail in summer.

Quebec, oldest city in Canada.

INDUSTRIES.

Lumbering—Pine, cedar, fir.
Farming—Wheat, oats, hay, potatoes, apples.
Fishing—Cod, mackerel, salmon.
Mining—Coal, gold.
Commerce.
Great Lakes.
St. Lawrence.

GOVERNMENT.

Canada belongs to England. The people make their own laws. Canada is ruled by a governor-general appointed by the King of England.

PEOPLE.

North—Eskimos.
Farther South—Indians.
South and Southeast—Whites.

Seventeenth Week.

MEXICO.

LOCATION. — Mexico is south of United States. It is in the south-central part of North America.

SURROUNDING WATERS.

Gulf of Mexico.
Gulf of California.
Pacific Ocean.

SIZE—One-fourth the size of United States.

ZONES.

North Temperate.
Torrid.

SURFACE — Mountainous, comprising four regions of varying elevation.

CLIMATE—The climate of the coast plain is hot, moist, and unhealthful. The climate of the sloping land resembles that of Florida. The soil is well adapted for coffee, cotton, and fruits. The climate of the central plateau is temperate. The climate of the mountainous section is cold. Here are found many active volcanoes.

CITIES.

Mexico, capital.
Vera Cruz, an important seaport.

INDUSTRIES.

Mining—Silver.
Farming—Wheat, cotton, sugar, coffee, tobacco, hemp.
Raising of cattle and sheep.

PEOPLE.

Spaniards.
Mexicans.
Indians.

Eighteenth Week.

CENTRAL AMERICA AND PANAMA.

LOCATION. Central America and Panama are in the southern part of North America.

SURROUNDING WATERS.

Caribbean Sea
Pacific Ocean

SIZE. One-fifteenth size of United States.

SURFACE. Low coast plain. The mountains are near the western coast. There are many volcanoes and earthquakes.

CLIMATE. Tropical. The heavy rains and heat make large portions of it very unhealthful.

INDUSTRIES.

Lumbering—rubber trees.
Farming—coffee, bananas.

PEOPLE. Indians and Spaniards.

GOVERNMENT.

Six Republics.

PANAMA.

Panama forms a bridge between North and South America.

CITIES.

Colon
Panama.

There is a railroad, owned by the United States, connecting these two cities. A canal is being constructed by United States connecting Colon and Panama.

Nineteenth and Twentieth Weeks.

REVIEW.

5A GRAMMAR.

By Lillian C. Briton.

First Week.

TYPES.

1. What things do.

2. What is done to things.

Change from type 1 to type 2, and vice versa.

Analysis of sentences under types 1 and 2.

1. The wind broke the rosebush.

2. The rosebush was broken by the wind.

RULE. Most nouns add s to the singular to form the plural; e. g., hat, book, blossom.

VERBS. Four parts of.

Use verbs to complete these

Now I —— Now I ——

Yesterday I — I have ——

Use correctly in sentences: break, bring, beat, bend, blow.

REVIEW. Names of persons, places, days, months, cities, streets.

Use in written sentences.

Second Week.

TYPES. What quality things are.

The beaver is very industrious.

Analysis of sentences of above type.

SENTENCES. Declarative and interrogative.

1. The snow fell silently.

2. Did the snow fall heavily?

Change from 1 to 2, and vice versa.

VERBS. Begin, blow, bite, buy, come.

RULE. Most nouns ending in *o* add *es* to the singular to form the plural.

Potato, hero, buffalo, tomato.

Third Week.

TYPE. What things are.

The butterfly is an insect.

Analysis of above type sentences.

VERBS. Choose, catch, draw, do, drink,

RULE. Words ending in a hissing sound, such as s, x, or z, add *es* to the singular to form the plural.

Church, box, buzz, ax, glass.

ABBREVIATIONS. Mr., Mrs., St., Ave. Initials of names.

Fourth Week.

SENTENCES. Imperative.

Come, read to me some poem.

HAS—HAVE. A bird has wings.

Birds have wings.

PREFIX, SUFFIX, SYLLABLE, VOWELS.

CONSONANTS. Terms explained and illustrated preparatory to teaching.

1. A syllable is a part of a word; in to, car ry, out side.

2. A prefix is a syllable placed before a word.

3. A suffix is a syllable placed after a word.

4. Vowels are a-e-i-o-u.

5. Consonants are rest of alphabet.

VERBS. Drive, eat, find, fight, fly.

Fifth Week.

SENTENCES. Telling types to which they belong, diagramming. Sentences a little more difficult; e. g.: One night a knock came at the door.

YOU. The verbs *are* and *were* used with you, whether *you* is singular or plural.

You *are* doing well, Mary.

You *are* doing well, girls.

You *were* right, Joseph.

You *were* right, boys.
Were you there?
What *were* you saying?
Was it you?

NOTE. In the last sentence, was is used because the answer is, It was or was not. *It* is used as subject in place of *I* or *we*.

VERB. Sit. Parts of used in sentences.

RULE. Final silent *e* is usually dropped before a suffix beginning with a vowel; strike, striking, skate, skated.

Exceptions. Finall e is retained before suffixes beginning with a vowel, to prevent confusion with other words of nearly same spelling; as, singeing, shoeing.

Sixth Week.

SENTENCES. Supplying pronouns after verbs is and was.

It is I.	It was we.
It is we.	It was they.
It is they.	It was he.

VERB. Set. Parts of used in sentences.

ABBREVIATIONS. Of months, days, states.

RULE. When the singular ends in *y* preceded by a vowel, the plural is formed by adding *s* to the singular.

Key, tray, toy, play.

Seventh Week.

SENTENCES. Analysis. Type.

TYPE. Behind the clouds the sun is shining.

Sentences of type in which the order is transposed.

VERBS. Lay. Parts of used in sentences.

NOUNS. Definition. A noun is the name of a person, or place, or thing; as, John, street, book, etc.

IRREGULAR PLURAL FORMATION. Man, woman, child, ox, goose, mouse, foot, tooth; also deer, sheep, cod, mackerel, etc.

RULE. When the singular ends in *y*, preceded by a consonant, the *y* is changed into *s*, and *es* is added to form the plural; as, spy, sky, baby, etc.

Eighth Week.

SENTENCES. Transposing sentences on page 83, Maxwell's First Book in English, and analyzing them.

VERBS. Lie. Parts of used in sentences.

RULES. List of miscellaneous nouns written on blackboard, changed from singular to plural, and vice versa.

Preposition. Between, among.

The marbles were divided between John and Harry.

The marbles were divided *among* the three or four boys.

Ninth Week.

SENTENCES. Have children give sentences of type, *What is done to things*. Analysis.

VERBS. Lie and lay compared, and used in sentences.

PREPOSITIONS. Of, off.

He fell *off* the roof.

The steam was shut *off*.

The camel is called the ship *of* the desert.

The conductor *of* the train rang the bell.

POSSESSIVE SINGULAR. To form the possessive singular, add an apostrophe and s to the noun; as, lady's mouse's fox's.

NOTE. Nouns representing inanimate objects are rarely put in the possessive form except in poetry; not the table's leg, but the leg of the table. The possessive form is to be used for human beings and the higher animals.

Tenth Week.

SENTENCES. Analysis. Type to which it belongs. Pick out nouns contained therein.

VERBS. Bring, take. Parts of, difference between.

Bring the book *to* me.

Take the tray *away*.

PHRASE. Different *from*.

This desk is different *from* that.

Sentences of above type given by children.

POSSESSIVE PLURALS. When a plural noun ends in *s*, add an apostrophe to form the possessive plural; as, foxes', boys', butterflies'.

Used in sentences.

Eleventh Week.

SENTENCES.

1. Analysis of.
2. Type.
3. Nouns picked out.

VERBS. Feed, forget, freeze, go, give. Parts of used in sentences.

To, TWO. Lincoln and Washington were *two* famous presidents.

We walked *to* the beach.

Used in sentences, by pupils.

POSSESSIVE PLURALS. When a plural noun does *not* end in *s*, add the apostrophe and *s* to make the possessive form; as, geese's, oxen's, women's.

Used in sentences.

Twelfth Week.

SENTENCES.

1. Analysis of.
2. Type.
3. Nouns and *verbs* picked out.

VERBS. Hold, hide, hit, lead and lose used in sentences.

Too. De went *too* near the water's edge.

Wait! I am going, *too*

Used in sentences.

RULE. Most words whose singular end in *f* or *fe*, change *f* or *fe* into *v*, and add *es*, to form the plural; as, knife, knives, loaf, loaves.

Thirteenth Week.

SENTENCES. Of transposed order.

Analyzed, type form given nouns and verbs picked out.

VERBS. Meet, rise, run, sleep, see.

RULES. Of term reviewed.

Series of words on blackboard.

CONTRACTIONS. Does not, do not, is not, has not, have not, I am, I have, It is, are not.

Compare with verb sit.

Warning against *ain't;* or the use of don't for does not.

"He don't know," is incorrect as it means he *do* not know.

ABBREVIATIONS REVIEWED.

Fourteenth Week.

SENTENCES. Work continued, as in previous week.

VERBS. Speak, shake, slide, swim, sell, strike.

RULE. *Verbs* ending in *y*, preceded by a consonant, change the *y* into i upon taking the suffix *ed* or *es*.

Cry, cries, cried.

Fancy, fancies, fancied.

ADJECTIVES. Comparison of small, hard, soft, large, fine, noble.

Used in sentences.

Fifteenth Week.

SENTENCES. Work continued.

VERBS. Tell, throw, take, tear, wear, teach, write.

RULE. Words of one syllable ending in a single consonant, preceded by a single vowel, double their final letter before a suffix beginning with a vowel.

Bag, baggage, bagged.

Club, clubbing, clubbed.

Rob, stir, nod, hop, etc.

ADJECTIVES. Comparison of by means more or less, most or least; useful, careful, beautiful, industrious, valuable.

Sixteenth Weeek.

SENTENCES. Work continued, including picking out adjectives.

VERBS. Bind, burn, leave, fling, steal, hear.

ADJECTIVES. Comparison of little, much, many, good, bad, old, far, late.

RULES. Reviewed.

Seventeenth Week.

SENTENCES. Continued.

VERBS. Keep, know, grow, bleed, cost, cut.

POSSESSIVE. Reviewed.

PREPOSITIONS. By, on, of, in, over, used correctly in sentences.

Eighteenth Week.

SENTENCES continued. Interrogative, declarative, imperative.

VERBS. Ride, shoot, shut, spend, spread, stick, think, win.

RULES FOR PLURALS REVIEWED.

PREPOSITIONS. With, upon, from, into, under, used in sentences.

Nineteenth Week.

SENTENCES. Continued.

VERBS. Lie, lay; has, have.

RULES. Reviewed.

PREPOSITIONS. Review between, among, different, from, off, of.

RULES FOR POSSESSIVES. Reviewed.

Twentieth Week.

SENTENCES. Continued.

VERBS. Sit, set; bring, take.

RULES.. Reviewed.

ADJECTIVES. Reviewed.

PRONOUNS. After, is, was, are, were.

5A COMPOSITION.

First Week.

a. STORY REPRODUCED. (Choice of one below.)

1. The King of the Golden River's First Visit (Ruskin).

2. One of the Fanciful Tales (Stockton).

3. David or Joseph or Ruth.

4. Anecdote of Washington or Lincoln or Longfellow.

b EXCUSE FOR ABSENCE.

Accepted.

1. Illness. 2. Important errand. 3. Accident. 4. Fire. 5. Lack of shoes or clothing.

Not accepted.

1. Clocks slow. 2. Late to bed. 3. Overslept. 4. Couldn't find books, etc. 5. Called for friend.

MODEL FOR EXCUSE.

My dear Miss ———,

Will you kindly excuse me for my absence yesterday afternoon. Mother is ill in bed and directs me to say that I had to call for the doctor. I will make up the lessons.

Respectfully your pupil,

———— ————.

513 A Street,
February 5, 1912.

(Folded, placed in envelope addressed to the teacher.)

Second Week.

a. AN ACCOUNT OF SOME HISTORICAL CHARACTER.

From outline developed in class by pupils.

1. Columbus.

2. Vespucci.

3. de Leon.
4. Lincoln.

b. EXCUSE FOR LATENESS.
Good excuses as above.

Third Week.

DESCRIPTION.

(*a*) A description of the principal business street near the pupil's home.

Developed from topics prepared in class.

1. Fulton St.
2. Broadway.
3. Grand Street.
4. Belmont Avenue.

Topics: Direction. Extent. Width. The kinds of stores. The booths or stands along the street. The novelty venders. The people passing or buying. What pleasures, if any, is derived from a walk through this street. The most interesting hour for a walk and why.

b. EXCUSE FOR LESSONS UNPREPARED.

1. Compelled to entertain visitors. 2. Suddenly ill. 3. Mother needed help. 4. Never to be repeated invitation.

Model for Excuse for Unprepared Lesons:

My dear Mr. ———,

My uncle from Chicago arrived suddenly last night. After dinner he invited me to go to the concert with him. I could not refuse. There was no time for me to do my school work. I will gladly make it up today after school.

Your respectful pupil,

—— ———.

Parent's signature:

—— ———.

35 Orr St.,
February 15, 1912.

Fourth Week.

a. IMAGINARY JOURNEY ACROSS THE ROCKY MOUNTAINS.

Material gathered by pupils from text books, books of travel, description in reader. (Pictures to be pasted on the composition paper, or sketches to be drawn). The illustrations not to be elaborate but merely elucidating.

The trip will be more thrilling from some eastern point to a destination on the Pacific coast.

1. From Denver via Colorado Canyon to San Francisco.
2. From Minneapolis via Yellowstone to Portland.
3. From Chicago via Salt Lake City to Los Angeles.

OUTLINE. The season. Why chosen. The time of day. Sleeping on the cars. Notice of fall in temperature early in the morning. First view as day dawns. Slow ascent. Range on range snow covered. Jagged peaks broken rocks. Rushing streams. Storm-shattered trees. Mining towns. Second night. Morning of destination.

b. LETTER TO RELATIVE IN EUROPE. REPLY TO INQUIRIES. NEWS OF FAMILY. STRUGGLES. STRANGE CUSTOMS. STRANGE LANGUAGE. KINDLY PEOPLE. MANY PLEASURES. WISH THAT RELATIVES COULD COME.

Model for Letter to a Relative.

542 R Avenue,
Brooklyn, February 25, 1912.

Dear Uncle Joseph,

Your letter reached us after a long, long time, because you didn't address it quite correctly. We were very glad to find that every one is well in St. Petersburg. You say it is very cold. Here the weather is sometimes cold, sometimes mild. Little Esther and I go to school in a great big gray castle across the way. We live in a flat of five rooms on the third floor. Two rooms have no windows, but open into other rooms that are light. We have two boarders now, and mother will soon have a third. It is very

crowded, but you know we must have money. Things cost so much in America.

It is hard for us to get used to things here, but we begin to understand the language. People are very kind and help us all they can. There is lots of fun here, too. I wish that you and Aunt and the children could be here.

Father and mother send their best greetings and so do we children. Keep well and write soon again. When you write, be sure to add, New York City. U. S. A. to our addres, so that your letter won't go to the wrong place first.

Your loving nephew.

OSCAR.

Fifth Week.

a. STORY COMPLETED.

The Golden Window, L. J. Richards.

"All day long, the little boy worked hard in field and barn and shed, for his people were poor farmers and could not pay a workman, but at sunset there came an hour that was all his own, for his father had given it to him. Then the boy would go up to the top of a hill and look across at another hill some miles away. On this far hill stood a house with windows of clear gold and diamonds. They shone and blazed so, that it made the boy wink to look at them: but after a while the people put up shutters as it seemed, and then it looked like any common farmhouse. The boy supposed they did this because it was supper time. And then he would go into the house, and have his supper of bread and milk and so to bed."

Later the father gave the boy a whole day to himself, and he crossed the valley to the house with the golden windows. What did he find benind them?

Perhaps—A Brownie's Home.

" —A Sleeping Princess.

" —A Beautiful Family.

Each child to guess something and then to write without further help.

b. LETTER TO GAS COMPANY BECAUSE OF POOR GAS.

Model for Letter to Gas Company.

251 S. Avenue,
Brooklyn, Feb. 29, 1912.

The Consolidated Gas Company,
St. James Place, Brooklyn.

Gentlemen:

For the past two months the gas at the above address has been so poor we have been in half darkness. There is not a steady light. Sometimes the flame flares high, then almost goes out. With such a light, I cannot study my school lessons, nor draw the sketches I sometimes have to prepare. My father cannot read, my mother cannot sew. My teachers complain that my penmanship is poor, and I don't write on the line. How can I when I can't see the lines?

Will you kindly try to send us better gas. All the neighbors are complaining too. My father threatens to turn off the gas, and buy lamps for the house, but that would make work. Thanking you for your consideration, which I feel sure you will give me, I am

Respectfully yours,

JOHN ADLER.

Sixth Week.

a. PIZARRO AND PERU.

OUTLINE. 1. Where he came from. 2. Why Pizzaro went to Peru. 3. The kind of people he found. 4. How they resisted him. 5. His cruelty. 6. His conquest and booty.

b. LETTER TO LANDLORD, REPAIRS.

Model for Letter to Landlord.

Brooklyn, March 10, 1912.

Mr. Henry Wilkins,
45 Monroe St., Manhattan.

Dear Sir:

Will you kindly send your agent over to the above adress to examine a small

leak in the pipe under one of the stationary tubs? I noticed it yesterday, and do not wish it to grow worse. There is a defect in the pipe, I think. We have not used that tub since the leak was found.

You said when you last called here that if all your tenants were like us, you would be a lucky man. And you also promised that you would promptly repair any reasonable wear and tear.

Anticipating your courtesy, I am with thanks.

Very respectfully yours,
CHAS. SLATER.

Seventh Week.

a. AUTOBIOGRAPHY.

My shoe tells its story. The story will be happy or mournful according to how the shoe has been used.

MODEL. (Illustrations would be very desirable.)

You would never notice me, so I must shuffle and introduce myself. I am a poor, sorry looking thing now, and so is my twin brother; but once we were bright and new, and our shoelaces were perfectly good. How did we get to look like this? Just ask that rough boy who jerks us on and off as if we had no feeling. How did I get that tongue so twisted? He never stopped to smooth it out, because he always got up at the last minute. Yes, I see you are looking at the hole in the toe. That's because he gets into tempers so easily and kicks at anything; the floor, the curb, the iron fence, the school desk. New laces would make me look better? Of course, but he is too lazy to get them. Polish? Well I would love to have some, but no one in the house knows where the shoebrush is That boy lost it a week ago.

b. LETTER SUBSCRIBING TO MAGAZINE.

Teach the use and convenience of a postal money order. Get blanks from post office and explain details.

Have copies of the best children's magazines, so that choice may be made.

St. Nicholas.
Golden Days.
Youth's Companion.
The Boy's Magazine, etc.

Model:

15 B. Avenue,
Brooklyn, March, 21, 1912.

To the Publishers,
St. Nicholas Magazine,
————, Manhattan.

Gentlemen:

Enclosed you will find a postal money order for three dollars, for which please send me your magazine for one year beginning with the April number. With thanks.

Very truly yours,
ISAAC COHEN.

Eighth Week.

a. A TRIP THROUGH THE GREAT LAKES TO OCEAN. ILLUSTRATION OF LAKES AND ROUTE. PICTURES. SEE ILLUSTRATED FOLDERS.

Outline of actual trip taken by writer.

Duluth — large steamer — summer — long twilight—aurora borealis—distance from shore—as if on the sea—stormy—many freight boats—ship canal at Sault St. Marie—great cities passed even if not seen—stop at Niagara—change to smaller ship. Ship passes through locks — among The Thousand Islands — the rapids—the view of Montreal—the cliff at Quebec—beautiful scenery—to Gulf of St. Lawrence—to sea—a most interesting trip.

b. INVITATION. Invitation to cousin and friend to spend the day. Attractions.

Model:

————, Brooklyn.
Monday, March 20, 1912.

Dear Cousin Reuben,

Will you come over next Saturday

afternoon and bring Charlie? I have just finished my new biplane, and we can go into the fields and fly it. It goes finely. And mother has promised us a nice little spread. Answer soon.

Affectionately,

DAVID.

Ninth Week.

a. THE CLOCKS OF RODAINE.

Gluck's Mug.

Canova's Lion.

From topics developed in class.

b. LETTER WRITING FOR SAMPLES OF GOODS.

_____,

_____.

Messrs. F. Loeser & Co.

Gentlemen:

Will you kindly send me samples of black broadcloth to cost about $2 a yard or less, and samples of Persian figured messaline at about $1 a yard or less.

Thanking you for your courtesy, I am

Very respectfully,

_____ _____,

Tenth Week.

a. CONTRAST BETWEEN BIRDS AND BATS. Illustrations:

How similar. How differem. The fable about them.

Once the birds and the fourfooted animals had a war. The bat sided now with the birds, now with the quadrupeds. When peace was declared neither the birds nor the beasts befriend the bat. Hence he is neither bird nor beast entirely.

b. LETTER IN REPLY TO MODEL GIVEN.

907 Bemis Street,

Springrun, April 12, 1912.

My dear Niece Edna,

Your pretty little letter with its picture of Fido drawing Elsie's doll in her cart, pleased me very much. I am going to answer your question too.

You wanted to know if when you knew some one was punished for what another had done, you should tell your teacher, so that the right boy should be punished. You didn't want to be a tell-tale.

Let me tell you that these are hard matters to decide. I certainly would tell the teacher that J. was innocent and didn't tie the cat to her chair. Then she will ask you questions and you must tell the truth.

The best way would be to get A. to confess. Can't you influence him to be manly? Write and tell me how you succeed with A. Try that way first.

Your sincere friend,

AUNT RAY.

Let each child answer this letter as if she were Edna, telling what success she had with A. in persuading him to confess.

Eleventh Week.

a. DESCRIPTION OF A PICTURE.

1. Sir Galahad.
2. The Golden Stairs.
3. Oxen Plowing or The Horse Fair.
4. Baby Stuart.

Weave a story around the picture.

Think of how it happened that every thing was just so.

Where did it happen? What time of the year was it? Who saw it. You didn't. Did the painter? Perhaps, perhaps not. What is being said?

Now write the story.

b. LETTER. Letter about renewing an insurance policy.

207 D. Street,

Brooklyn, April 23, 1912.

The N. A. Insurance Co.,

36 Pine St., Manhattan.

Gentlemen:

Kindly renew policy No. _____ on

household furniture at the above address. Find check in payment enclosed. Kindly advise if received.

Truly yours,

JOHN AUL.

Twelfth Week.

a. INVENTION: THE CORN KERNEL'S STORY.

From its place in the ear to the beautiful curly leaved plant. Illustration of ear of corn (color) and of corn stalk. Copied from any seed book.

or

The Little Brown Cotton Seed, introducing the little colored boy who picks the cotton.

Children to gather information about these plants. They can both have been started in the classroom.

b. TELEGRAM.

To father who is in Boston, telling him of little brother's illness. To come home.

In fewest words. Note form first. In the above three words will tell all. Brother ill. Come. A telegram is addressed as is a letter. Forms should be shown and hints given.

Thirteenth Week.

a. STORY OF SIR FRANCES DRAKE.

Map of hemispheres. Route in red.

Outlines arranged by pupils under direction of teacher.

b. LETTER. IMAGINARY.

From George Morris to the woodman not to cut down his father's favorite tree.

Poem to be read.

Fourteenth Week.

a. DESCRIPTION. THE MARINER'S COMPASS.

Illustrate. Consult geography.

b. LETTER (after excursion made).

Visit to the Museum.

Pupil to arrange own topics and write about what he enjoyed most. These letters to be written to pupils in another class, who are to answer them.

Fifteenth Week.

View of New York City from one of the bridges.

TELEGRAM.

Telegram to father stating brother better, or similar message.

Sixteenth Week.

STORY: VISIT TO THE TOWER.

(To be completed.)

"Out I went into the night. The wind was still moaning in the distance though never a breath of it came near the house of Shaws. It had fallen blacker than ever, and I was glad to feel along the wall, till I came the length of the stair-tower door at the far end of the unfinished wing. I had got the key into the key-hole and had just turned it when all upon a sudden without sound of wind or thunder the whole sky was lighted up with wild fire and went black again. I had to put my hand to my eyes to get back to the color of the darkness; and indeed I was already half blinded when I stepped into the tower."

STEVENSON'S KIDNAPPED.

STUDY. Three readings. Who "I" was. Whether familiar with, or stranger to his surroundings. Why he went to the tower. What the lightning revealed.

We shall consider this chapter I. You may think about what he saw. Also what happened in the tower. That will be Chapter II. Questions so stated as to require exact recall of the description.

Where did I go? How was the wind? Tell if a breath of it came near the house? How dark was it? What was I

glad of? Where did I come? Into what had I put the key? What happened? Where did I put my hands? Where did I step? Chapter III. The Old Tower Stairs. What happened there?

(Just enough introducing may be given to excite the children's imagination.)

b. LETTER. To the Teacher, reviewing term's happenings—regret for, or satisfaction in respect to personal conduct—determination to have last four weeks the best of the term.

Seventeenth Week.

a. STORY. THE TRUTH TELLER.

(Civics.)

Children must rely entirely on their own imagination for this story.

b. LETTER. Letter to summer resorts for descriptive booklets and rates.

There are enough children in every section who will sometime need to write such a letter. The better the letter, the more courteous the consideration.

Eighteenth Week.

a. DESCRIPTION. THE CLIFF DWELLERS. THE MOUND BUILDERS.

(Consult history.)

b. LETTERS. Letters in reply to those written by pupils of another class to them.

Nineteenth Week.

a. EXPAND INTO A LONG STORY.

1. An Indian came to the house left in charge of a little French girl.

2. A hunted native limped into a cave with his bag of gold.

3. A boy fast asleep in his boat is drifting down the Missisippi River.

b. LETTER. Explain to a cowboy friend how basket ball is played.

Twentieth Week.

a. HOW TO MAKE

A good baseball.

A monoplane.

A simple toy to amuse baby.

A useful garment.

b. APPLICATION FOR POSITION.

Model for Application for Position

618 X. Street,
Brooklyn, June 25, 1912.

Mr. Andrew Carnegie,
Manhattan, N. Y.

Dear sir:

I hereby apply for a position in your steel works, as I wish a situation that offers chance of advancement. You have been so liberal, I am sure you will accord me consideration. I am only a fourteen years old boy, but I want to work with my hands. I don't want office work.

If you will favor me, I am sure I can get good references, for I have a good record at school, and am obedient and respectful.

Awaiting your valued reply, I am

Yours respectfully,

I. TRY.

5A SPELLING AND DICTATION.

By Helen Templeton.

FIRST WEEK.

understand	needles
well-behaved	thread
creatures	hundreds
chestnut	usually
geography	wrists
fraction	explorer
North America	inhabitant
addition	disappoint
neighbor	gathered
jumped	punished
family	displeased
smooth	generally
catching	afraid
strangely	discoverer
happier	multiplication
covered	division

"How are your new kittens?" asked the neighbor's cat.

"You may come and look at them," said Madame Tabby.

SECOND WEEK.

beautiful	crept
friend	journey
seizing	presently
buttoned	kitchen
nonsense	cupboard
library	laughing
sketch	oyster
describe	trouble
whether	minutes
entered	watched
swiftly	scarce
nestled	circles
fierce	drowned
conductor	selfish
accident	remembered
trolley	miserable

1. "Mother, may I go coasting?" asked Harry.

"Yes, Harry, as soon as you have dug the snow out of the paths," said his mother.

2. "You are old, Father William," the young man cried;
"The few locks which are left you are gray:
You are hale, Father William, a hearty old man;
Now tell me the reason, I pray."

"You Are Old, Father William."—*R. Southey.*

THIRD WEEK.

imagine	piece
frozen	heir
errands	here
impatiently	to too two
dining-room	replied
breakfast	laundry
lunch-box	kerosene
raisins	family
leather	stretching
eagerly	received
though	kernels
thought	greedy
convenient	countries
exclaimed	United States
mentioned	discovered
amuse	merrily

One day Mrs. Crex said, "We have too many cats. Something must be done with Betty."

Rule.—Most nouns add s to the singular to form the plural.

"Will, are you going to drown that cat?" said the sailor.

"No, I am looking for a new home for Betty," said Will.

FOURTH WEEK.

animals	single
gained	field
brightened	youth
pupil	silence
vacant	imaginary
school-room	axis
scholar	latitude
suddenly	longitude
together	people
answered	clothing
trick	music
tease	automobile
good-natured	kodak
torment	develop
equator	landscape
horizon	cylinder

"Mother," said Helen, "this lovely flower smells very sweetly."

"It is sweet, Helen," answered her mother. "See if you can be as sweet all day long as your beautiful flower."

Rule.—Some nouns ending in o, add es to form plural.

FIFTH WEEK.

traveled	answer
familiar	shouted

coarse	express
listened	heavily
aeroplane	photographer
aviator	ellipse
aviation	horizontal
difficult	vertical
straight	passenger
habit	outstretched
advice	flavor
promise	huddled
happened	fourth
jacket	swiftly
surprised	pardon
pleasant	excuse

Poetry, music, and painting are fine arts.

David was a brave, wise, and pious prince.

Happy is the child who obeys, loves, and honors his parents.

Rule.—When singular nouns ends in y. preceded by a consonant the plural is formed by changing the y to ies.

SIXTH WEEK.

bottom	sweeter
wondered	delighted
beach	wheat
swept	whispered
quickly	danger
scrambled	rapidly
really	divisor
believe	integer
distance	suppose
machine	rough
glistened	front
view	between
motor	difference
electric	supplies
ignorant	manufacture
particular	cotton

"Mother, may I go into the garden to pick some roses, lilies, geraniums, and tulips?" said Mary.

Rule.—When singular nouns end in y preceded by a vowel, the plural is formed by adding s only.

SEVENTH WEEK.

interesting	enough
wildly	barrel
corner	quarters
closet	comrade
troublesome	cucumbers
busily	basketful
destroyed	expected
thousands	puzzled
halt	through
mounds	threw
march	porch
queer	ground
curious	brought
trunks	generous
insects	cocoa
caught	immediately

The fairy said, "Cinderella, why are you crying?"

"I want to go to the ball," answered Cinderella.

"If you will be a good girl," said the fairy, "you shall go."

EIGHTH WEEK.

guess	closely
punching	managed
bundles	twisted
treated	road-side
vegetables	fence
crowded	cancellation
struggle	certainly
disappear	absence
sprained	reason
frolic	scratched
Saturday	to-morrow
carriage	hurrying
rubbish	sunrise
reduction	flown
numerator	frightened
denominator	carefully

The frog said, "My dear Mr. Mouse. will you come home with me? I would like to show you what beautiful things I have in my pond."

"My name is Libby," said the owner of the bright eyes. "What is yours?"

"My name is Hetty," replied the other.

Rule.—Most nouns ending in f or fe, form their plural by changing f or fe in the singular to v and adding es.

NINTH WEEK.

uncle	feast
cousin	mistakes
tough	handsome
dandelion	October
geraniums	squirrel
arranged	fishy
cluster	railroad
banana	newspaper
fruit	dropping
branches	fancy
ground	quite
biscuit	account
several	quiet
buried	garment
wonderful	engineer
holiday	whistle

"What shall we do?" said Roy.

"Perhaps I shall soon feel better," said Jack. "You go on and I'll come after."

Rule.—Some nouns form their plurals irregularly; as, foot, feet; mouse, mice

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TENTH WEEK.

moment	snowflake
flannel	thrifty
shoulders	parlor
signal	scream
search	natives
danger	parrot
wrapped	scolding
shivering	separating
skating	settled
stupid	chatter
coasting	thickly
autumn	welcome
gymnasium	curious
office	dictionary
message	alphabet
amiable	pencil

1. "Sue, what do you know about bananas?" said Uncle Jack.

"I know that they grow in hot countries," said Sue, "and I think they grow in the woods."

2. Oranges, apples, pears, and peaches are fruit.

3. Pencils, pads, pens, and blotters were on the desk.

Rule.—Final e if preceded by a consonant is omitted when a termination beginning with a vowel is added; love, loving; take, taking.

DICTATION.

Heap high the farmer's wintry hoard!
Heap high the golden corn!
No richer gift has Autumn poured
From out her lavish horn.

Corn Song.—
JOHN GREENLEAF WHITTIER.

ELEVENTH WEEK.

afternoon	pictures
dozen	blankets
cloudy	useful
hiding	journey
quarreling	region
diamonds	arrival
millions	enjoyed
warmth	twelve
gently	front
instead	blossoms
really	plural
evening	September
meadow	Brooklyn
sparkling	republic
playmates	subtraction
everybody	decimal

Rule.—Some nouns have the same form in singular and in plural: Sheep, deer, gazelle.

DIRECT AND INDIRECT QUOTATIONS.

1. Mary said, "I am going to the park."

Mary said that she was going to the park.

2. "I put the books on the table," said Jack.

Jack said that he put the books on the table.

3. The boy said, "I shall do my lessons in the morning."

The boy said that he would do his lessons in the morning.

4. The girl said, "I shall go to-morrow."

The girl said that she would go to-morrow.

TWELFTH WEEK.

blossoms	slender
climate	twisted
wagons	attention
number	often
trousers	please
valuable	transparent
exhibition	concert
fertilizing	chorus
daisy	quilts
loosely	feathers
truly	lawn
until	apron
articles	underneath
commerce	allowed
squeezed	continued
building	general

"What becomes of all the cotton, Uncle?" said Albert.

"A great deal of it goes to other countries, Albert," said Uncle Fred, "but much is used in the United States."

Drake was an Englishman who loved his country and did not want to see Spain greater than England.

"Some day," he used to say, "I will show these Spaniards that they do not own the whole world."

THIRTEENTH WEEK.

people	voice
ceiling	pound
everywhere	roaring
glossy	escaped
crawling	repectfully
fair	affectionately
fare	avenue
judge	recess
ribbons	angry
peanuts	seized
trunks	strayed
sashes	wonderful
unkindness	elephant
attend	menagerie
elementary	mischief
principal	because

TWELFTH AND THIRTEENTH WEEKS.

Rules.—Add the apostrophe and s to a singular noun to make the possessive form.

When the plural noun ends in s, add the apostrophe to make the possessive form.

When a plural noun does not end in s, add the apostrophe and s to make the possessive form.

In the morning the people said, "What a frost we had last night! Jack is a sly fellow."

A child standing by the window cried, "Oh, see the beautiful snow."

FOURTEENTH WEEK.

useful	thinner
scarlet	fancied
golden	matches
fastened	dirigible
comical	exercise
packages	cough
plucked	monoplane
floating	candles
guessed	cheerful
frozen	remained
pictures	mirror
bargain	regular
brilliant	conquer
hemming	syrup

Rule.—All monosyllables, or polysyllables accented on the last syllable, and ending in a single consonant, preceded by a single vowel, double the final consonant before a suffix beginning with a vowel: thin, thinner; plan, planning; slip, slipping; compel, compelled.

FIFTEENTH WEEK.

asleep	joyful
sheltered	wounded
slipper	sorrowful
bundles	question
comfortable	examine
mischievous	arrows
naked	touched
punctual	owner
ceased	whistling
blazing	ponies
camp-fires	divided
listened	camped
Indians	question
victorious	disobey
medicine	parties
forward	

1. Columbus said, "The earth is round. I can reach India by sailing to the west." But most men laughed at him.

2. "I can reach India," persisted Columbus, "by sailing to the west." So Queen Isabella gave him money to get ships and men.

SIXTEENTH WEEK.

raised	signal
riding	although
surrounded	victory
painted	battle-field
camera	blacksmith
telephone	lingered
receiver	Arctic
vacation	wharf
snatched	fourth
blanket	measured
pouring	forge
circle	further
composition	hemstitch
salutation	grocery
sincerely	invitation
lecture	envelope

1. "I beg you to supply me with ships and sailors," said Columbus. "I will make a voyage across the Atlantic Ocean. I will find a new way to India."

2. After Vespucci had described the new world in a letter, some one said, "Let us give a name to this new continent in honor of the great explorer."

Rules.—Adjectives of one syllable usually add r or er to the positive to form the comparative, and st or est to form the superlative.

When adjectives consist of two or more syllables, different degrees of the quality they denote are usually indicated by prefixing more and most, or less and least, to the simple form of the adjective.

SEVENTEENTH WEEK.

voyage	bitterly
honor	regiment
describe	rapture
galloped	seldom
soldier	nickel
studious	perhaps
attentive	forehead
pupil	canary
indirect	direction
village	captain
fifteen	loaves
shouldered	potatoes
marched	appetite
necessary	perfectly
their	silently
business	watched

Mary said, "My sister is a good, careful, studious, and attentive pupil."

(Change to the indirect form.)

"Little by little," said a thoughtful boy,
"Moment by moment I'll well employ,
Learning a little every day,
And not misspending my time in play.

"LITTLE BY LITTLE."

EIGHTEENTH WEEK.

among	requested
beneath	perhaps
sunbeams	sensible
lovingly	gentleman
orchard	conversation
amusing	handkerchief
understood	charcoal
foul	liquor
fowl	liquid
noticed	observing
thoughtful	loaves
jacket	inquiring
old-fashioned	delight
unpleasant	continue
forward	crevices
frequently	twined

1. The little girl said, "The months of spring are April, May, June."

(Change to the indirect form.)

2. A great man has said, "There is no such thing as a white lie. A lie is as black as a coal pit and twice as foul."

"I hear thee speak of the better land;
Thou call'st its children a happy band.
Mother! O where is that radiant shore?
Shall we seek it, and weep no more?
Is it where the flower of the orange blows,
And the fire-flies dance through the myrtle boughs,"
"Not there, not there, my child!"

"THE BETTER LAND."

—*Felicia Hemans.*

NINETEENTH WEEK.

curtains	capital
superintendent	daily
marble	borrow
radiant	music
statue	favorite
butterflies	imprisoned
welcome	difference
freshness	correctly
sparrow	watchful
breath	meridians
naught	parallels
review	gardener
comma	prime

"Shall I have naught that is fair?" saith he;
"Have naught but the bearded grain? Though the breath of these flowers is sweet to me,
I will give them all back again."

—THE REAPER AND THE FLOWERS.

—*H. W. Longfellow.*

TWENTIETH WEEK.

humming	hidden
towards	coffee
whole	already
their	stomach
niece	wealthy
which	patient
calmly	purpose
February	easily
during	choose
carrying	syllable
believe	promptly
suddenly	empty
always	companion
too	success
altogether	defeat
several	

Once a pair of birds came to our fields. The grass was growing tall and the bees were humming everywhere.

Then one of the birds fell to singing, and the other birds said, "Who told you to sing?" He answered, "The flowers, the winds, the leaves, and the blue sky told me to sing."

5A MEMORY WORK.

By Agnes J. Hall.

SPRING TERM.

First Week.

A Prayer.

The day returns and brings us the petty round of irritating concerns and duties. Help us to play the man, help us to perform them with laughter and

kind faces, let cheerfulness abound with industry. Give us to go blithely on our business all this day, bring us to our resting beds weary and content and undishonored, and grant us in the end the gift of sleep.—*Robert Louis Stevenson.*

Second Week.

The Arrow and the Song.—*Henry Wadsworth Longfellow.*

APPROVED SELECTION for 5th year, p. 14.

Third Week.

Trust me, Scholar, it is the part of wisdom to spend little of your time upon the things that vex and anger you, and much of your time upon the things that bring you quietness and confidence and good cheer. A friend made is better than an enemy punished. There is more of God in the peaceable beauty of this little wood-violet than in all the angry disputations of the sects. We are nearer heaven when we listen to the birds than when we quarrel with our fellow-men.

Fourth Week.

He that feels not the beauty and blessedness and peace of the woods and meadows that God hath bedecked with flowers for him even while he is yet a sinner, how shall he learn to enjoy the unfading bloom of the celestial country if he ever become a saint.

—From THE RULING PASSION,
By *Henry Van Dyke.*

Fifth Week.

Yet even here and in the stormy month of March even, there are bright, warm mornings, when we open our windows to inhale the balmy air. The pigeons fly to and fro, and we hear the whirring sound of wings. Old flies crawl out of the cracks, to sun themselves, and think it is summer. They die in their conceit; and so do our hearts within us, when the cold sea-breath comes from the eastern sea.—*Longfellow's Hyperion.*

Eighth Week.

The Gladness of Nature, verses 1 and 2.

Seventh Week.

The Gladness of Nature, verses 3 and 4.

Eighth Week.

The Gladness of Nature, verse 5.

From APPROVED SELECTIONS for 5th year, p. 20.

Ninth Week.

On either hand the trees grew taller and more stately. The mellow light of afternoon deepend behind them, and the rich cloud colors of approaching sunset tinged the mirror of the river with orange and rose.

—DAYS OFF. *Henry Van Dyke.*

Tenth Week.

A Blessed Secret.

It is a blessed secret, this of living by the day. Any one can carry his burden, however heavy, until nightfall. Anyone can do his work, however hard, for one day. Any one can live sweetly, patiently, lovingly and purely until the sun goes down. And this is all that life ever really means to us—just one little day.—*Ladies' Home Journal.*

Eleventh and Twelfth Weeks.

THE GLADNESS OF NATURE.—*Wm. C. Bryant.*

APPROVED SELECTIONS, 5th year, p. 21.

Thirteenth Week.

Woodman, Spare That Tree, verse 1.

Fourteenth Week.

Verse 2.

Fifteenth Week.

Verse 3.

Sixteenth Week.

Verse 4.

18.

APPROVED SELECTIONS for 5th year, p. 18.

Seventeenth Week and Eighteenth Week.

Review.

Nineteenth Week.

Just at my feet lay a little silver pool, with the sky and the woods painted in its mimic vault, and occasionally the image of a bird, or the soft, watery outline of a cloud, floating silently through its sunny hollows. The water-lily spread its broad, green leaves on the surface, and rocked to sleep a little world of insect life in its golden cradle.—*Longfellow's Outre-Mer.*

Twentieth Week.

Failure is not the worst thing in the world; the very worst is not to try.—*Ladies' Home Journal.*

FALL TERM.

First Week.

A Prayer.—*Robert Louis Stevenson.*

See first week of spring term.

Second Week.

See third week of spring term.

Third Week.

See third week of spring term.

Fourth Week.

See fourth week of spring term.

Fifth Week.

Landing of the Pilgrims, verses 1 and 2.

Sixth Week.

Verses 3-4.

Seventh Week.

Verses 5-6.

Eighth Week.

Verses 7-8.

Ninth Week.

Verses 9-10.

APPROVED SELECTIONS for 5th year, p. 40.

Tenth Week.

Review.

Eleventh Week.

See ninth week of spring term.

Twelfth Week.

See tenth weeek of spring term.

Thirteenth Week.

Woodman, Spare That Tree, verse 1.

Fourteenth Week.

Verse 2.

Fifteenth Week.

Verse 3.

Sixteenth Week.

Verse 4.

APPROVED SELECTIONS for 5th year, p. 18.

Seventeenth Week and Eighteenth Week.

Review.

Nineteenth Week.

See nineteenth week of spring term.

Twentieth Week.

See twentieth week of spring term.

5A HISTORY.

By Lillian L. Johnston.

First Week.

INDIANS of North America.

THE MOUND BUILDERS.

WHERE FOUND? Mississippi Valley.

HOMES. Earthworks. Some were round, some square, some in the form of animals.

USE. Burial places, temples, for protection.

WEAPONS. Made of stone and copper.

AGE. Determined by trees growing on the mounds.

Second Week.

THE CLIFF DWELLERS.

WHERE FOUND? Arizona and New Mexico.

HOMES They lived in cliffs along rivers and canyons where soft clay had worn away. Some were made of stone, one story high.

USE. One house was used as a watch tower.

Third Week.

THE AZTECS.

Where found? Mexico.

HOMES. They lived in houses made of red stone. The roofs were flat with towers at the corners. Flower gardens were on the roofs.

RELIGION. They believed in one God and several lower Gods. They sacrificed human beings. The priests were powerful.

GREATEST KING. Montezuma treacherously imprisoned by Cortez.

Fourth Week.

AMERICAN INDIANS.

WHERE found? North and South America.

APPEARANCES. Brown or copper-colored, straight black hair, high cheek bones.

They dressed in the skins of animals. Their shoes, called moccasins, were made of soft deerskin decorated with beads and shells.

HOMES. Tents or wigwams.

OCCUPATIONS. Hunting, fishing, raising of corn and beans, making pottery, stone pipes, arrow heads, canoes, baskets.

RELIGION. They worshipped a Good and an Evil Spirit. They believed in a future state of existence.

Fifth Week.

CONDITIONS LEADING TO THE DISCOVERY OF AMERICA.

Trade was carried on with the eastern countries. The journey was long and wearisome and the goods were costly. The Turks captured Constantinople, thus cutting off trade with the East. As a result many turned their attention to finding another route to the East. Thus we come to Columbus.

COLUMBUS.

1. Nationality.
   Italian.
2. Country for which he sailed.
   Spain.
3. What he was looking for.
   A northwest passage to India.
4. What he discovered. When?
   He discovered one of the West Indies and named it San Salvador in 1492.

5. Interesting facts.
   He made three other voyages to the New World. He died in poverty.

Sixth Week.

AMERIGO VESPUCCI.

1. Nationality.
   Italian.
2. Country for which he sailed.
   Spain and Portugal.
3. What he was looking for.
   Gold and spices.
4. Explorations.
   In 1497, he explored the coast of North America around the Gulf of Mexico.
   In 1501 he explored the eastern coast of South America, named Brazil and claimed it for Portugal.
5. Interesting facts.
   When he returned to Europe he wrote an interesting account of his voyages. Later America was named after him.

Seventh Week.

THE CABOTS.

1. Nationality.
   Venetians.
2. Country for which they sailed.
   England.
3. What they were looking for.
   They were in search of a shorter route to India.
4. What they discovered. When?
   They discovered the mainland of North America in 1497.
5. Interesting facts.
   They explored the coast of North America from Labrador to Maryland. They were the first white men to touch the mainland.

Eighth Week.

PONCE DE LEON.

1. Nationality.
   Spaniard.
2. Country for which he sailed.
   Spain.
3. What he was looking for.
   A fountain of youth and gold.
4. What he discovered. When?
   He discovered and named Florida in 1513.
5. Interesting facts.
   He made the discovery on Easter Sunday, which in Spanish is Pascua Florida. In 1521 he returned to Florida to plant a colony but the attempt was unsuccessful.

Ninth Week.

BALBOA.

1. Nationality.
   Spaniard.
2. Country for which he sailed.
   Spain.
3. What he was looking for.
   He was looking for gold.
4. What he discovered. When?
   He discovered the Pacific Ocean in 1513.
5. Interesting facts.
   He named this magnificent body of water South Sea because he was looking toward the South when he first saw it. Later it was named Pacific Ocean by Magellan.

Tenth Week.

CORTEZ.

1. Nationality.
   Spaniard.
2. Country for which he sailed.
   Spain.
3. What he was looking for.
   Gold.

4. Interesting facts.
   Cortez conquered the Aztecs. Shiploads of treasures were sent by Cortez to the Spanish king.

Eleventh Week.

PIZARRO.

1. Nationality.
   Spaniard.
2. Country for which he sailed.
   Spain.
3. What he was looking for.
   He was in search of gold.
4. Interesting facts.
   He fought and conquered the Incas in Peru, South America. Pizarro was with Balboa when Balboa discovered the Pacific Ocean.

Twelfth Week.

DE SOTO.

1. Nationality.
   Spaniard.
2. Country for which he sailed.
   Spain.
3. What he was looking for.
   He sailed to Florida in search of gold.
4. What he discovered. When?
   He discovered the Mississippi River in 1541.
5. Interesting facts.
   De Soto was taken ill and died. His followers buried him in the river that he discovered.

Thirteenth Week.

DRAKE.

1. Nationality.
   English.
2. Country for which he sailed.
   England.
3. His reason for sailing.
   To make England as rich as Spain.
4. What he accomplished.
   He circumnavigated the globe. He started in 1577 and returned to England in 1580.
5. Interesting facts.
   He plundered Spanish settlements in South America. He landed at New Albion, now California, where the people wanted him to become their king.

Fourteenth Week.

RALEIGH.

1. Nationality.
   English.
2. What he wished to do.
   He wished to form colonies in the New World. He made two attempts but both were unsuccessful.
3. Interesting facts.
   He introduced tobacco into England. Some of the colonists, on their return to England, introduced the white potato.

Fifteenth Week.

CARTIER.

1. Nationality.
   French.
2. Country that sent him out.
   France.
3. What he was looking for.
   A northwest passage to India.
4. What he discovered. When?
   The St. Lawrence River in 1534.
5. Interesting facts.
   He named Montreal. He planted a cross which served as a beacon.

Sixteenth Week.

CHAMPLAIN.

1. Nationality.
   French.
2. Country for which he sailed.
   France.

3. What he discovereed. When?
   Lakes Champlain, Huron and Ontario. He founded the City of Quebec.

Seventeenth Week.

SMITH.

1. Nationality.
   English.
2. His purpose.
   To form a colony in Virginia.
3. Interesting facts.
   The first permanent colony was founded at Jamestown in 1607. He was made the head of the colony. On one of his journeys into the country he was captured by the Indians. Smith would have been killed if Pocahontas, the chief's daughter, had not begged her father to spare Smith's life.

Eighteenth Week.

HUDSON.

1. Nationality.
   English.
2. Country for which he sailed.
   Holland.
3. What he was looking for.
   A northwest passage to India.
4. What he discovered. When?
   The Hudson River in 1609.
5. Interesting facts.
   In 1610 Hudson discovered Hudson Bay.

Nineteenth Week.

MAGELLAN.

1. Nationality.
   Portuguese.
2. Country for which he sailed.
   Spain.
3. What he discovered. When?
   The strait of Magellan in 1520.
4. Interesting facts.
   He entered and named the Pacific Ocean in 1520. His men returned to Spain in 1523, thus completing the first voyage around the world.

Twentieth Week.

Review.

Reeferences.

DISCOVERERS AND EXPLORERS.—Shaw.

OUR COUNTRY'S STORY—Tappan.

5A CIVICS.

By Helen Templeton.

First Week.

THE EDUCATIONAL SYSTEM.

How much under State authority. Free books. Duty to take care of books and other school property.

Second Week.

Different kinds of schools and purpose of each. Heads and organization. Day institutions: Elementary School, High School, College City of City of New York, Normal College. Night institutions: Night Elementary and Foreign, Evening High Schools, Recreation Centers. Summer institutions: Vacation Playgrounds, Vacation Schools.

Third Week.

Training Schools, Nautical Schools, Truant and Disciplinary Schools.

Fourth Week.

Review.

Fifth Week.

Supplementary Educational Institutions: Free Lectures, Museums, His-

torical Landmarks, Botanical Garden, Zoological Gardens, Museum of Art.

Sixth Week.

Department of Education: Composition of Board of Education and manner of election. City Superintendent. Board of Superintendents. Board of Examiners. Pupil, Teacher, Principal, Superintendent.

Seventh Week.

LOCAL SCHOOL BOARDS. The Local Board is made up of seven members including district superintendent, a member of Board of Education, and 5 members who must be residents of district. These five are appointed by Borough President. Duty of local board is to inspect schools and make reports and recomendations, and select sites for new schools.

Eighth Week.

CITIZENSHIP. Duties and rights. Municipal Government: Mayor and other officers.

Ninth Week.

Compulsory Education Law. Child Labor Law. Factory Inspector. Attendance officer.

COMPULSORY EDUCATION LAW. Child must attend school between ages of 6 and 16. Can have employment certificate at 14, but must be in 5B, must have attended school 130 days since thirteenth birthday, and have passed an examination. Then child must attend evening school until 16.

CHILD LABOR LAW. No child under 14 can be employed in any factory. No child between 14 and 16 without an employment certificate. No child under 16 can be employed in a factory more than 8 hours a day, or in mercantile establishments more than 9 hours a day.

Tenth Week.

Compulsory School Age. Penalty for parents and truant; hearing by superintendent. Parole system.

Eleventh Week.

Compulsory attendance at Evening School. Attendance officer.

Twelfth Week.

Naturalizations. Natives and aliens. Election Laws. Election Districts.

Thirteenth Week.

EMPLOYMENT REGULATIONS. Employment certificate, newsboy permits and badges.

Boy from 10 to 14 may sell newspapers if he wears a badge. Permit and badge given by district superintendent. Permit contains name of parents, address, place of birth, color of hair and eyes, height, and distinguishing marks. Badge good for one year only.

Fourteenth Week.

OFFICERS OF LAW. Civil and criminal jurisprudence. Kind of courts: General Sessions, Magistrate, Night Courts. Judge, prisoner, lawyer. Plaintiff, Defendant, District Attorney. Foreman of Jurors. Jury. General description of court procedure and final disposal of prisoners adjudged guilty. Witness.

Fifteenth Week.

CHILDREN'S COURT and its purpose. Probationary officers.

Sixteenth Week.

PENALTIES. Penalties for offences

termed misdemeanor. Truant School. Work House. Reformatories. Fines. Tombs. State Prison.

Seventeenth Week.

Duty of respecting the court and the truth.

Eighteenth Week.

City Housekeeping. Taxes. Assessor. Tax Collector. Exemptions. Duties and Excises.

Nineteenth Week.

Laws and Lawmakers. City Ordinances. The Charter.

Twentieth Week.

Review.

5A NATURE PLAN.

By Agnus J. Hall.

First Week.

I. Distinction between vertebrates and invertebrates: vertebrates have back bones, invertebrates have not.

II. MAMMALS—man, cow, horse, etc., bat, whale.

Appearance—have body, head, four limbs.

Covering—hair.

Breathing—by means of lungs.

Birth of young—young born alive.

Blood—warm, red.

Habitat—generally on the ground.

Mode of locomotion—generally walking or running.

Second Week.

MAMMALS USEFUL TO MAN.

Beasts or burden:—horse, mule, donkey, ox, goat, camel, elephant.

Cow.

Flesh and milk for food.

Butter and cheese for food.

Hides—leather.

Horns—buttons.

Bones—handles of knives.

Hoofs—glue.

Sheep. Flesh, wool, skin—parchment.

MAMMALS DANGEROUS TO MAN:—tigers, lions.

PROTECTIVE RESEMBLANCE:

Polar bears—white like the snow.

Tigers—striped like the lights and shadows of the jungle grass.

Leopards—spotted, like the spots of light shining through the leaves of the trees.

Third Week.

BIRDS COMPARED WITH MAMMALS.

Resemblance.

Vertebrates.

Four limbs.

Breathe by means of lungs.

Warm-blooded.

Difference.

1. Limbs. Mammals—generally four legs; birds—two wings, two legs.

2. Covering. Mammals—hair; birds—feathers.

3. Birth of young. Mammals born alive; birds hatched from eggs.

4. Habitat. Mammals generally on ground; birds more often in trees.

5. Mode of locomotion. Mammals generally walk; birds generally fly.

THE BAT A MAMMAL. Comparison of owl and bat as above to show that the bat is really a mammal.

1. Use of bats—feed on insects.

2. Use of birds—feed on worms, caterpillars, moths, and so protect plant life.

Hen, goose, duck, turkey, game—for food—eggs.

Feathers used for pillows, trimmings, etc.

Owls destroy rats and mice.

3. Protective resemblance.

Blue bird—blue back like the sky, brown breast like the ground.

Bright colors of tropical birds, corresponding with the colors of the flowers among which they fly.

The partridge is brown like the earth and leaves among which it hides it nest.

Fourth Week.

FISH AND OTHER VEGETABLES. Fish compared with other vertebrates as to the following:

1. Appearance—no neck connecting body and head, fins in place of legs and wings.
2. Covering—scales.
3. Breathing—by means of gills.
4. Birth of young—generally from eggs.
5. Blood—cold.
6. Habitat—water.
7. Mode of locomotion—swimming.

Use of fish—for food—cod, halibut, mackerel, salmon, herring, sardines.

Fish dangerous to man—shark, some are very ferocious. One species has a sharp spine in front of some of the fins, with which they can make a dangerous wound. With some, the tail is the weapon used. The man-eater shark has been known even to attack boats.

Whale not a fish. Comparison of fish and whale, according to topics used in discussion of mammals and fish, to show that the whale is not a fish.

Fifth Week.

REPTILES.

SNAKE—a vertebrate.

Appearance—long, cylindrical, footless bodies.

Covering—scales.

Birth of young—from eggs.

Blood—cold.

Habitat—generally the ground.

Mode of locomotion—creeping.

Use—some snakes feed on insects.

Dangerous to man—poisonous snakes—rattlesnakes, moccasins, copper heads.

Protective resemblance of snakes—color, stripes.

TURTLE—a vertebrate.

Appearance—somewhat round—head, tail, four limbs.

Covering—shell.

Breathing—by lungs.

Birth of young—from eggs buried in the sand.

Blood—cold.

Habitat—some land species and some water species.

Mode of locomotion—walking or swimming.

Use—some turtles used for food.

Tortoise shell.

Dangerous to man—snapping turtle—some are carnivorous and very savage.

Sixth Week.

AMPHIBIOUS ANIMALS—frog, toad—vertebrates.

Appearance—body is short, thick and tailless in adults—four limbs, the hind pair adapted for leaping.

Covering—a loose skin.

Breathing—by gills in the young—lungs develop later.

Birth of young—eggs deposited in water. These hatch out into tadpoles. The legs begin to appear as little lumps under the skin. The tadpole has a long fishlike tail. Finally the legs are full grown and the tail is absorbed. Then the frog or toad crawls upon the shore in perfect form.

Blood—cold.

Habitat—water in first two stages. In last stage the toad lives on land, but the frog spends part of its time in the water.

Mode of locomotion—jumping, swimming.

Use—toads devour harmful insects such as flies. Frogs' legs are considered a great delicacy for food.

Protective coloring—The frogs and toads are generally brown or green like the limbs of trees and leaves among which they live.

Seventh Week.

INVERTEBRATES.

SPONGES. For many years sponges were thought to be plants—are found fastened to rocks in both fresh and salt water. Those of use in commerce come mostly from Key West, the Bahamas, the Mediterranean and Red Seas.

Reproduction—from eggs. The young are small, oblong creatures with numerous cilia. They swim around for a while and then become attached to the bottom. Soon a delicate net work of lime or a fibrous or horny substance appears which forms a frame work for the soft, jelly-like mass. The parts that form this framework are called spicules.

Food—The cells of the inner part have a cilium or lash. The water passes through the pores of the sponge, and the cilia throws any particles of food it finds, against its cell. The soft part is absorbed, and the rest passes on and out of a large opening.

51 Sponge.

a. inhalent apertures.
c. exhalent aperture.
b. ciliated chambers.

The arrows indicate the direction of the currents.

Use to man—for toilet purposes—for cleaning in general.

Eighth Week.

CORAL. The coral animal resembles a cylinder attached at the bottom to a rock. At the opposite end is the mouth, which is surrounded by hollow tentacles, armed with lasso cells.

The young swim about by means of cilia. They attach themselves to the bottom and begin to secrete lime which forms little radiating partitions and also the outer wall. Finally we have the coral polyp, from which others branch, until large blocks are formed of many individuals, but all connected.

Most corals are olive or brown wher taken from the water. Then they are bleached. Much coral is found near Florida and the West Indies. Florida and the West Indies are formed partly from coral.

Coral islands are formed by the growth and accumulation of corals until they near the surface of the water. Earth may be washed away from neighboring land and deposited here, and seeds may find a lodging and grow.

Red coral is found in the Mediterrean —used in jewelry.

Ninth Week.

WORMS—earthworm.

Appearance—have head and tail and are made up of an indefinite number of joints or segments—cylindrical in shape.

Locomotion—The lower parts of the segments are perforated with four rows of holes through which extend bristles which are really the feet. These curve backward, and, by extending the head and throwing them out the remainder of the body is pulled along.

Reproduction—from eggs.

Use—stir and loosen soil. Worm casts gradually accumulate on surface to form layer of finest soil.

COMPARISON OF WORM AND CATERPILLAR.

The caterpillar is the larva form of some insect—often the butterfly. While its form is sometimes also spoken of as a worm, the term is more often applied to the vermes which are worms in their perfect or adult form.

Tenth Week.

STAR FISH.

Appearance—a small central body with radiating arms. The number of arms varies. The common variety has five—other species as many as twenty. Are other species as many as twenty. An eye at the end of each ray.

On the lower side of each ray are rows of little tubular suckers with which the starfish clings to objects, and which are also used for locomotives.

The mouth is on the underside of the body.

Reproduction—from eggs.

Habitat—water.

Troublesome to fishermen as they devour bait, oyster, etc.

Eleventh Week.

MOLLUSKS—oyster, clam, snail.

Appearance—soft, unjointed animals. covered by a mantle and protected by a shell. Oyster and clam have two shells, snail only one.

Blood—colorless.

Habitat—water for clam, snail; land for land snails.

Reproduction—eggs.

Locomotion—a foot with which it can also glue itself to a rock. The ear is in the foot.

Use—food, pearls, buttons.

Protective resemblance—shells color of rocks.

Twelfth Week.

SPIDERS.

Appearance—body in two parts, eight legs—spinnerets—fangs.

Reproduction—from eggs.

Their webs are traps with which to catch their prey. In this way they destroy many noxious insects such as flies etc.

Dangerous to man—the fangs of some spiders contain poison, so that a bite would be dangerous.

Protective resemblance—spiders are generally colored like their surroundings—brown, like the branches of plants. yellow, like the flower where they live.

Thirteenth Week.

INSECTS.

Appearance—head, thorax, and abdomen distinct—six legs, geenrally two or four wings.

Breathing—little opening, or air holes on sides of body leading into tubes.

Reproduction—from eggs generally which hatch into the larva. This is a worm like stage. It eats a great deal. moults, and then very often spins a cocoon. It remains in this till it is ready to emerge as the perfect insect.

BEES.

Three kinds—queens, workers, drones. All live in a community—sometimes 20,000 in one.

There is one queen.

The workers secret wax of which the cells are found, gather honey, feed the larva, etc. A queen is created by feeding a larva upon royal food.

Use—bees make honey and wax.

Dangerous to man only in their sting.

Fourteenth Week.

ANTS AND THEIR HILLS.

Sir John Lubbock considers that ants stand next to man in intelligence.

Live in communities of sometimes 500,000—males, females, and workers. The latter care for the young, do the building, get food, tend their cattle (Aphidae). Each has its own particular work.

They seem to have a sign language and they go to war in organized bodies.

Use—they are great scavengers.

Fifteenth Week.

INSECTS DANGEROUS TO MAN—fly, mosquito.

Flies—two wings.

Eggs are deposited in offal about stables. Remain in chrysalis or pupa stage for about fourteen days.

They light on al sorts of filth and so carry disease and dirt wherever they go. Keep them out of houses by screens—have food always covered so they will not be attracted.

MOSQUITO.

Have been found to be the cause of much yellow fever and malaria which they induce by their sting.

Marshy places make good breeding ground—rain barrels—any stagnant water. The eggs are deposited on the water. They pass through the larva and pupa stage and finally emerge as the perfect insect. Oil put on the water prevents the hatching.

Sixteenth Week.

CRUSTACEA—lobster, crab.

Appearance — Have joined feelers, jaws, and legs arranged in pairs. Skin hard, and body made up of rings or segments.

Breathing—by gills.

Habitat—water.

Reproduction—from eggs—the young pass through many changes before attaining the parent form.

Five pairs of legs—first, a crusher and cutter, very large; second, nippers: the others have points or claws.

Crustaceans mould or cast their stall at different periods. The soft shelled crab is the result of casting. They also have the faculty of throwing off their limbs and renewing them again.

Use—for food.

Valuable scavengers.

ACKNOWLEDGMENT. For most of these facts I am greatly indebted to "Elements of Zoology" by Charles Frederick Holder, LL. D., and Joseph Bassett Holder, M. D.

5B ARITHMETIC.

By Beatrix M. Fischer.

First Week.

MENTAL.

1. Review decimal equivalents of business fractions.

1/2 = .50 1/4 = .25 3/4 = .75

1/8=.12 1/2 3/8=.37 1/2 7/8=.87 1/2

Rapid drill on the above with cards or written on the board. Use fraction and ask for the decimal equivalent. Reverse operation and require the fractional equivalent. Continue this drill work all week to impress on the pupil's minds.

2. Rapid work in addition. This can be done by means of charts and devices at first and later altogether mentally. Have columns of figures on the board.

1. Begin at bottom.

2. Begin at the top and add down.

3. Add across.

4. Make a circle and divide into any number of parts, and place a smaller circle in the center. In this 2, 3, 4, 5, 6. etc., may be written. Fill in parts with numbers from 2 to 9. Beginning with central figure add rapidly. Commence with a different section each time and one figure will last for the entire class.

1, 2, 3, added up, down and across.

7 9 5 4 6 =
8 2 6 3 5 =
6 3 2 9 4 =
3 8 3 7 9 =
2 4 9 8 3 =
5 6 7 4 8 =

WRITTEN.

1. Review of decimals.

Write decimals at dictation through ten thousandths.

2. Pay special atention to the spelling of tens, hundredths, thousandths, etc.,

and tenths, hundredths and thousandths.

3. Apply this drill in decimal writing to examples in addition and subtraction.

4. In subtraction use every possible type. Combine whole numbers and decimals always dictating numbers. Use a whole number for the minuend as from one thousand one take one-thousandths.

1001 — .001 =

Work for acuracy and secondly for speed.

Second Week.

MENTAL.

1. Application of the knowledge of business fractions to simple multiplication, as:

.50 of 12	.25 of 16	.37 1/2 of 24
.50 = 1/2	.25 = 1/4	.37 1/2=3/8
1/2 of 12=6	1/4 of 16=4	3/8 of 24=9

Make the children give statements in full when working the above type.

2. Continue rapid work in addition.

8+3+3+3+3, etc.

7+3+3+3, etc.

6+3+3+3, etc.

Same drills with other combinations.

3. For drill in subtraction begin with 100 and use all combinations.

100—3—3—3—3—3, etc.

100—6—6—6—6—6—6, etc.

WRITTEN.

1. Continue work in addition and subtraction of decimals.

2. Express decimals in fractional form and in words.

.28 = 28/100 or 7/25 = twenty-eight hundredths.

.45 = 45/100 or 9/20 = forty-five hundredths.

3. Reduction of decimal to fraction when decimal numbers more than two places.

.37 1/2 = .375 = 375/1000 = 3/8

.3125 = 3125/10000 = 5/16

4. Changing fractions to decimals as: 5/8 changed to a decimal we know is .62 1/2 or .625. We can change any fraction to its decimal equivalent by dividing the denominator into the numerator. Since the numerator is the smaller number our work will be with decimals.

```
                .3125
              ------
5/16 = 16)5.0000
          48
          --
          20
          16
          --
          40
          32
          --
          80
          80
```

16 was not contained in 5, therefore we placed our decimal point in the quotient and continued adding ciphers until we reached the fourth decimal place.

Third Week.

MENTAL.

1. Application of business fraction to simple finding of costs.

At 1/2 each, what will 7 caps cost?

How much will 15 pads cost @ $.75 apiece?

2. Include in finding of costs prices exceeding the dollar.

How much will I have to pay for 9 lamps @ $1.50 apiece?

$1.50 = $1 1/2 = 3/2

Number of articles, which is 9, times the cost of one article, which is 3/2= 27/2=$13 1/2.

3. Rapid work in division.

4 ÷ 3	5 ÷ 4	11 ÷ 5
6 ÷ 3	7 ÷ 4	14 ÷ 5
7 ÷ 3	12 ÷ 4	23 ÷ 5
12 ÷ 3	14 ÷ 4	27 ÷ 5
13 ÷ 3	15 ÷ 4	31 ÷ 5
etc.	etc.	etc.

If remainder is not in lowest terms, it must be reduced.

WRITTEN.

1. Addition and subtraction of decimals, continued.

2. Changing of fractions to decimals.

Apply in form of simple examples as: Change to decimals and add: ,

5/8 + 3/4 + 1/2 + 5/16 = ?

.625
.75
.5
.3125

2.1875

3. Teach the finding of a number when the number plus a part is given.

What number increased by 3/5 of itself = 32?

The number itself must have been 5/5.

WRITTEN.

What number increased by 6/7 of itself = 52?

7/7=whole number 7/7+6/7=number increased=13/7. 13/7=52.

Answer, 28.

13/7 = 52

1/7=1/13 of 52=4

7/7 = 7 × 4 = 28

If children have difficulty in seeing that 1/7 is 1/13 of 42, show by means of diagrams, marks or other device on the board.

|1|2|3|4|5|6|7|8|9|10|11|12|13|

If 13 parts (instead of sevenths)=52 what will one part equal? If 13 books cost 52c what will one cost? Now supply the original sevenths. We wish to divide by 13. Another way of dividing by 13 is finding 1/13 of 52.

WRITTEN.

Since increased means made larger, we can see that something has already been added to our number. The problem tells us that this increase is 3/5. 5/5 or the whole + 3/5 the increase = 8/5. The problem also states that after the number was increased it equalled 32. Therefore the 8/5 must equal 32. If 8 parts are 32 one part will be 1/8 of 32 or 4. The whole number for which we are working (5/5) will then be 5×4 or 20. Train the children to write out their thoughts in steps. In working the example. On the left side of our paper we write the problem, statements, and our final answer.

Fourth Week.

MENTAL.

1. Review business fractions applied to finding costs.

2. Continue drills in addition, subtraction, multiplication and division.

3. Combine addition a subtraction and business fractions in simple examples, as:

I bought bread @ 8c, milk for 9c. How much change from $1/4?

4. Simple application of finding a number when the number plus a part is given.

5. Score, abstract and applied to simple problems.

How many articles in 2 score and 3? 5 score? 3 score and 4?

How many articles in 3/4 of a score? 4/5 of a score; 2/5; 1/2; 1/4; 1 1/2, etc.

WRITTEN.

1. Continue addition and subtraction of decimals.

2. Continue changing decimals to fractions and fractions to decimals.

3. Finding a number when the number plus a part is given.

4. Teach decrease. Apply to finding a number when the number minus a part is given. What number decreased or diminished by 3/4 of itself = 72?

7/7 = whole number.

7/7 — 3/7 = number decreased = 4/7.

4/7 = 72.

If 4/7=72, 1/7=1/4 of 72=18; and 7/7=7×18=126.

Fifth Week.

MENTAL.

1. Let children, for home work or during study hour, change fractions 1/3, 2/3, 1/5, 1/6, 5/6 to their decimal equivalents and tell them that they must remember them with the 1/2, 1/4, 3/4, and eighths which they know. Make cards for these and include in rapid recognition drills.

2. Apply new business fractions to problems and abstract multiplication as in second week.

3. Teach and apply the dozen, gross and great gross.

How many units in 2 1/2 doz.? 2 1/3? 2 1/4? 2 1/6? 2 3/4? 2 2/3 etc.

How many dozen in 1 1/2 gross, etc.?

WRITTEN.

1. Review of work in decimals with addition and subtraction, multiplication.

2. Continue work in decimals with Multiplicand and multiplier both decimals. One decimal and one a whole number.

3. Review and drill on the finding of numbers when number + or — a part has been given.

4. Review addition, subtraction of fractions.

In subtraction give special attention to the type in which the minuend is a whole number; as from 3,002 take 1,976 5/9 and from 100 take 89 1/5.

Give a great deal of drill on this in preparation for the work in complex fractions.

Sixth Week.

MENTAL.

1. Rapid work in addition, division and multiplication continued.

2. Review score, dozen, gross and great gross.

3. Finding costs of articles and aliquot parts of the $.

4. Multiplication of fractions. What is 3/4 of 4/5? 5/8 of 4/5?

2/3×6/7=? (1/3 of 9)+(3/4 of 8)=?

5. Review finding numbers when the number + or — a part is given.

WRITTEN.

1. Review of addition, subtraction and multiplication of decimals.

2. Review addition, subtraction multiplication and division of fractions. Work with simple fractions, and mixed numbers.

3. Teach the meaning of compound fractions.

2/3 of 3/4=? By cancellation, simplify the above.

Seventh Week.

MENTAL.

1. Rapid work in the four fundamental operations.

2. Examples reviewing the score, dozen, gross and great gross.

3. Costs of articles.

4. Finding number plus or minus a part given applied to simple problems.

John has 16 marbles which is a third more than his brother. How many has his brother.

After losing 2/5 of his money a boy had 15 left.

WRITTEN:

1. Decimal work in addition, subtraction and multiplication.

2. Simplifying compound fractions.

3. Complex fractions very briefly taken.

$$\frac{1/3 \text{ of } 3/5}{2/5 \text{ of } 5/8} = ?$$

Line between numerator and denominator of fraction denotes division. Therefore the above may be read 1/3 × 3/5 divided by 2/5 × 5/8.

How may fractions be divided? Inverting and proceeding, as in multipli-

cation 1/3 × 3/5 × 5/2 × 8/5 = 4/5 by cancellation.

Eighth Week.

MENTAL.

1. Rapid work in four fundamental operations.

2. Finding costs of articles.

3. How many articles @ fractional part of the dollar for some dollars.

At 16 2/3c each how many pads for $1 5/6?

By simple questions obtain from children the fact that we must divide to get "how many," 1 5/6÷1/6=29/÷1/6= 29/6 × 6/1 = 29 pads.

4. Simple problems in finding no. when plus or minus a part is given.

5. Review linear measure and square measure.

WRITTEN.

1. Decimal work in addition, subtraction and multiplication.

2. Compound and complex fractions.

3. Finding number of articles that can be purchased for a given sum.

How many yds. of cloth @ $1 3/8 a yard can be bought for $28.87 1/2?

In the mental we learned that in order to find how many articles we must divide the amount to spend by the cost of one article.

1 3/8 = 11/8 = cost of 1.

$28.87 1/2 = 28 7/8 = 231/8 equals amount.

231/8÷11/8=231/8×8/11=21.

Ans. = 21 yds.

4. Areas of rectangles with fractional application.

How many sq. ft. in a rectangle 30 ft. long and 21 ft. wide?

1 sq. ft. × length × width = area of a rectangle.

1 sq. ft. × 30/1 × 21/1 = 630 sq. ft.

Ans. = 630 sq. ft.

How many sq. ft. in a rectangle 22 1/2 ft. long and 18 2/3 ft. wide?

1 sq. ft. × length × width = area of a rectangle.

1 sq. ft. × 22 1/2 × 18 2/3 = 1 sq. ft. ×25/2×56/3=420 sq. ft.

Ans. = 420 sq. ft.

Find the area of a rectangle 18.6 ft. long and 12.8 ft. wide.

1 sq. ft. × length × width = area of rectangle.

1 sq. ft. × 18.6 × 12.8 = 228.08 sq. ft.

Ninth Week.

MENTAL.

1. Rapid work in the four fundamental operations.

2. Costs of articles.

3. Number of articles purchased for a given sum.

4. Areas of simple rectangles.

5. Simple problems in finding a number when plus or minus part has been given.

WRITTEN.

1. Decimal work in addition, subtraction and multiplication.

2. Division of decimals.

At first give drill in form and placing of decimal point without performing further operations.

2.

6.25÷2.5=25)62.5

79.3 ÷ .62 = 62)7930

3.

14.29 ÷ 3.8 = 38.)142.9

3. Short methods in division and multiplication of decimals and whole numbers by 10, 100, 1000.

4. Review changing decimals to fractions to decimals.

Tenth Week.

MENTAL.

1. Four fundamental operations rapid work.

2. Areas of rectangles.
3. Costs of articles.
4. Number of articles bought.
5. Decimal equivalents of fractions.

1/100 = .01 25/100 = .25
10/100 = .10 56/100 = .56

Another way of expressing these fractions and decimals is 1%, 10%, 25%, 56%.

Teach definition of percent.

Practice writing of per cents. from 1 to 100.

WRITTEN.

I. Four fundamental operations in decimals. Special drill on division.

2. Continue changing fractions to decimals and decimals to fractions.

3. Drill in rapid work using short methods.

4. Review areas of rectangle. Show that the rectangle can be divided into two parts by drawing the diagonal. The two figures thus formed are triangles. If the area of the rectangle was found by multipliying one square unit by length and by width, then the area of a triangle must be one-half as great since the two triangles equalled one rectangle.

Teach the terms base and altitude. Develop formula 1 sq. unit$\times$B$\times$A=area of

$$\frac{\quad}{2}$$

triangle.

Apply with fractions and decimals using units, inches, feet, yards, rods.

Eleventh Week.

MENTAL.

1. Rapid work in four fundamental operations.

2. Areas of rectangles and simple triangles.

3. Continue practice of writing fractions in three ways. Decimal and percent equivalents of business fractions.

2/3 = .66 2/3 = 66 2/3 %.
3/4 = .75 = 75%.
5/8 = .625 = 62 1/2%.

4. Costs of articles and number of articles bought.

WRITTEN.

1. Work in four fundamental operations with decimals. Special practice of division.

2. Areas of triangles and rectangles. Take second step—changing to square yards if required.

(a) How many sq. yds. in a recangle 43 ft. long and 36 ft. wide.

1 sq. ft. $\times$ length $\times$ width = area of rectangle.

9 sq. ft. = 1 sq. yd.

(1 sq. ft.$\times$43/1$\times$36/1)$\div$9=area.

43/1$\times$36/1$\times$1/9=172.

Ans. = 172 sq. yds.

(b) Find the area in sq. yds. of a triangle whose base measures 22 1/2 ft. and altitude 16 ft.

1 sq. ft. $\times$ B $\times$ A/2=area of triangle.

9 sq. ft. = 1 sq. yd.

(1 sq. ft. $\times$ 22 1/2$\times$16/2)$\div$9=area of triangle in sq. yds.

45/2$\times$16/1$\times$1/2$\times$1/9=20

Ans. = 20 sq. yds.

2. Areas of rectangle and triangles continued.

Finding the costs of plastering, painting, sodding and papering simple surfaces.

(a) What will it cost to paint a wall 35 ft. long and 22 1/2 ft. high @ $.14 2/7 a sq. yard?

1 sq. yd. $\times$ length $\times$ width =area of rectangle.

9 sq. ft. = 1 sq. yd.

$.14 2/7=1/7

(1 sq. ft. $\times$ 35/1 $\times$ 22 1/2)$\div$9=area in sq. yd. $\times$ 1/7=cost.

35/1$\times$45/2$\times$1/9$\times$1/7=25/2=12 1/2

Ans.=$12 1/2 or $12.50.

(b) How much will it cost to plaster a triangular space, base 16 ft. and altitude 13 1/2 ft. @ $.45 a sq. yd.?

1 sq. ft. $\times$ B $\times$ A/2 = area of triangle.

9 sq. ft. = 1 sq. yd.

45c = 45/100 = 9/20.

(1 sq. ft. ×16/1 × 13 1/2 × 1/2)÷9= area in sq. yd.

16/1×27/2×1/2×1/9×9/20=27/5=5 2/5

Ans. = $5 2/5 = $5.40.

Twelfth Week.

MENTAL.

1. Rapid work in four fundamental operations.

2. Areas of rectangles.

3. Review business fractions.

4. Continue drill in writing fractions as decimals and as per cents.

5. Finding per cents of numbers when the per cent is equivalent to some simple fraction.

Method cancellation.

25% of 16.

25%=.25=20/100=1/4

1/4 of 16=4.

6. Application of above to very simple problems.

In a class of 42 children 16 2/3% are boys. How many are boys?

WRITTEN.

1. Work in decimals—four operations.

2. Areas—all types.

3. Application of first case of percentage. Use only per cents which have simple fractional equivalents. Abstract and problem work.

Find 25%, 16 2/3%, 20%, etc. of numbers. Simple problems.

1. A man had $4,000 in the bank and withdrew 60% of it, how much had he left?

2. A grocer had 160 lbs. of sugar and sold 62 1/2% of it @ $.06 a lb.

Many problems like above.

Thirteenth Week.

MENTAL.

1. Four operations.

2. First case of percentage with simple per cents by cancellation. Abstract and problem.

3. Finding per cents of numbers when per cent has not a simple fractional equivalent.

By analysis. Review short methods of dividing by 10,000, 1,000.

Find 4% of $60.

1% of 60=1/100 of 60=$.60

4%=4×$.60=$2.40

Find 8% of 40

1%=1/100 of 40=.40

8%=8×.4=3.2

WRITTEN.

1. First case of percentage, abstract and applied to problems. By cancellation and by multiplication.

2. Teach second case. What per cent one number is of another. Use articles of all descriptions to impress on children that the answer will always be a per cent.

What per cent of 231 gallons is 77 gallons?

Make a fraction of the numbers (77/231) and reduce to the lowest terms by finding G. C. D., if the numbers are not divisible at sight.

(Review rules of divisibility as learned in 5A.)

Fourteenth Week.

MENTAL.

1. Simple problems in first case of percentage.

A boy had 64 marbles and lost 37 1/2% of them, how many did he lose?

37 1/2%=3/8 3/8 of 64=24

24 marbles lost.

2. Second case of percentage.

Abstract and problem work.

What per.cent of a yd. is 18 in.?

36 in. = 1 yd. = 100%

18/36 = 1/2 = 50%

Use all the tables children know in problems form.

In a class of 35 pupils, 5 are absent. What per cent is absent?

35 pupils = 100% or all.

5/55 = 1/7 = 14 2/7% absent.

WRITTEN.

1. Problems in second case continued. Give plenty of drill, making examples simple.

2. Work with both cases to see if children recognize method of work.

If 100% or all is given in the problem it is what case? What do we call our answers? If two numbers are given and a per cent required what is the form? What must we label our answer?

3. Review finding numbers when the number + or — a part is given.

Fifteenth Week.

MENTAL.

1. Four fundamental operations.

2. Review of finding number when the number plus or minus a part is given.

3. Substitute a per cent for the fractional part by which the number has been increased or diminished.

(a) What number increased by 33 1/3% of itself = 24?

(b) Applications to simple problems. There were 40 pupils in a class. That was 33 1/3% more than at the beginning of the term. How much at first.

100%=number at beginning.

100%+33 1/3%=133 1/3% at end.

133 1/3%=4/3=40. 30 pupils at the beginning.

4/3=40

1/3=1/4 of 40=10

3/3=3×10=30

WRITTEN.

1. Continue first and second cases of percentage.

2. Take third case—when the number plus or minus a per cent of itself is given. At first abstract work, and a great many simple examples.

3. Problems applying the above.

A man needed $4,560 which was 25% more than he had in the bank. How much did he have in the bank?

100%=amount in bank.

100%+25%=amount needed.

125% or 5/4=4560.

1/4=1/5×4560

4/4=912×4=3648

Ans. = $3,648 in bank.

Give problems in all three cases taught. Read problems rapidly to children to see if they can immediately recognize method of procedure without actual work.

Sixteenth Week.

MENTAL.

1. Finding per cent of numbers—problems.

2. Finding per cent one number is of another—problems.

3. Finding number when number plus or minus a part is given.

4. Finding costs of articles.

5. Finding number of articles purchased.

WRITTEN.

1. Three cases of percentage with applications.

2. Study of bills. Teach the terms debtor and creditor. Attention given to proper receipting of the bill.

3. Review dozen, gross, and great gross in connection with bills.

Seventeenth Week.

MENTAL.

1. Finding costs of articles.

2. Finding number of articles bought.

3. Application of percentage.

4. Areas of rectangles and triangles.

5. Dry and liquid measures reviewed and memorized.

WRITTEN.

1. Three cases of percentage applied.
2. Continue writing, receipting of bills.
3. Compound—complex fractions simply taken but using all operations.

$$\frac{1/2}{3/4} + \frac{1/3 \times 2/5}{1/3 \times 1/4} = ?$$

$(1/2 \div 3/4 = 1/2 \times 4/3 = 2/3)$
$+$
$(1/3 \times 2/5 \div 1/3 \times 1/4 = \quad)$
$(1/3 \times 2/5 \times 3/1 \times 4/1 = 8/5)$

2/3+1 3/5
15

2/3 | 10
1 3/5 | 9

2 4/5 | 19/15=1 4/5

Answer = 2 4/5.

Eighteenth and Nineteenth Weeks.

MENTAL.

1. Review of percentage.
2. Areas of rectangles and triangles.
3. Finding costs.
4. Number of articles purchased.
5. Rapid work in four fundamental operations.
6. Review of tables; linear, square, liquid, dry, avoirupois, lime, units, score.

WRITTEN.

1. Review of all work in percentage.
2. Review of all decimal work.
3. Areas of rectangle and triangles.
4. Complex, compound and compound complex fractions.
5. Bills.

5B GEOGRAPHY.

By Beatrix M. Fischer.

First Week.

GENERAL REVIEW OF THE UNITED STATES AS A WHOLE UNDER THE FOLLOWING HEADINGS.

1. IMPORTANCE as a nation, compared with other American countries.
2. LOCATION with reference to North America as a whole and to neighboring countries. Boundaries.
3. CLIMATE. Heat belts.
4. SURFACE. Cross-section of the United States, showing coastal plains. Atlantic and Pacific highlands and the Great Central Plain.
5. COASTLINE. Comparison of eastern and western. Discussion of reasons for the difference. Ages of the two mountain systems.

For home study, read pages 13-14 in Carpenter's Geog. Reader.

Second Week.

GROUPS.

1. Division of the United States into five groups for convenience in study. Show that divisions were made according to productive areas and conditions. Industrial.
2. Location of each group with reference to the United States and other groups, and neighboring countries if bounding, and bodies of water.

Much map-study to give pupils a strong mental image of the United States as a whole and of the groups of states.

Third Week.

NORTH ATLANTIC STATES.

LESSON 1.

NAMES of states in the group.

LOCATION with reference to the United States and Canada and bodies of water. Location of individual states in the group and their directions from each other.

BOUNDARIES.

COASTLINE. Very irregular—advantages derived from this fact. Important indentations — Massachusetts

Bay, New York Bay, Long Island Sound. Capes—Cape Cod—Cape May, Montauk Point.

LESSON 2.

CLIMATE. Temperate—but variable, having cold winters and hot summers.

SURFACE. Appalachian Highlands extend from southwest to northeast through this group: Green Mts. in Vermont, White mountains in New Hampshire, Catskill and Adirondack in New York, and Allegheny in Pennsylvania.

DRAINAGE. Many fine, navigable rivers—Connecticut, Hudson, Delaware, Susquehanna. Trace on the map, finding source, direction of course, and body of water into which each flows.

LESSON 3.

RESOURCES.

1. Good harbors—navigable rivers.
2. Water power.
3. Forests.
4. Fisheries.
5. Mineral deposits.

Industries dependent on the above resources and where carried on.

1. COMMERCE. New York, Massachusetts, Pennsylvania and other states to a lesser degree.

2. MANUFACTURING. New York, Massachusetts, Connecticut, Pennsylvania, Maine and Rhode Island.

3. LUMBERING. Maine, New Hampshire and northern New York.

4. FISHING. Maine, Massachusetts.

5. MINING. Pennsylvania, Vermont, New Hampshire and western Massachusetts.

6. AGRICULTURE. New York, New Jersey.

LESSON 4.

Read from Carpenter's North America Reader, Chap. IX-X.

Fourth Week.

LESSON 1.

PRODUCTS.

Manufactured—Cloth, clothing, boots, shoes, watches, clocks, novelties, leather goods, steel and iron ware, machinery.

In conjunction teach the cities, especially noted for the manufacture of various products.

Lumber, white pine, maple and spruce.

Fish, cod, herring and mackerel (preserved and canned fish).

Minerals—Coal, iron, petroleum, granite, marble and sandstone.

Agriculture—Hay, potatoes, apples. grapes, other garden truck. Special crop in Connecticut is tobacco.

EXPORTS. Cloth (cotton and woolen), clothing, grains, refrigerated meats and live stock, oil. With Great Britain and Germany.

IMPORTS. Raw cotton, sugar, coffee, tea, spices.

LESSON 2.

Written lesson as a review of the group. Work out in tabular form:

State—Cap—Imp City—Lead Ind—Prod				Lumber
Maine	Augusta	Portland	Lumbering	Fish Paper
V't.	M'tpeiier	Rutl'd	Quarry'g	lumber maple sugar marble

LESSON 3.

SPECIAL STUDY OF THE STATE OF MASSACHUSETTS.

1. LOCATION. Northeastern part of the United States and also of the North Atlantic states. (Direction from other states in the group.)

2. BOUNDARIES. On the north by New Hampshire and Vermont. On the east by the Massachusetts and Cape Cod Bays. On the south by Rhode Island and Connecticut, and on the west by New York State.

3. COASTLINE. Very irregular and rocky. Most important harbor next to New York on the Atlantic coast is Boston Harbor.

4. SURFACE. Very hilly, ground is rocky and unfit for extensive agriculture. Berkshire Hills in the west are noted for the slate and granite quarries and as a summer resort.

5. CLIMATE. Extreme. Very cold winters and hot summers.

6. RESOURCES. Water power furnished by the many short swift streams.

Quarries in Berkshire Hills and along the rocky coast.

FISHERIES. In Cape Cod and Massachusetts Bays and the Atlantic Ocean.

7. INDUSTRIES AND PRODUCTS. Manufacturing. Cloth, cotton, and woolen (Lynn, Worcester, Lowell, Fall River and Lawrence), leather goods, boots and shoes (Boston, Brockton and Lynn).

Watches and clocks (Boston).

Quarrying. Slate and granite (Gloucester).

Fishing. Cod, mackerel, halibut (Gloucester).

Commerce. Extensive trade with Great Britain and Germany.

Exports. Cotton and woolen goods manufactured clothing, leather goods.

8. BOSTON. Capital and most important city. Educational centre. Historical sites.

Chapter XI, Carpenter.

LESSON 4.

SPECIAL STUDY OF PENNSYLVANIA.

1. LOCATION. Eastern part of the United States and southern part of North Atlantic States. (Direction from other states.)

2. BOUNDARIES. On the north by New York State. On the east by New Jersey. On the south by Delaware, Maryland and West Virginia. On the west by Ohio.

3. SURFACE. Allegheny mountains extend through central and eastern parts. Fertile plains in west and along Lake Erie.

4. CLIMATE. Temperate—extreme in summer and winter.

5. RESOURCES. Mines, oil wells, fertile soil.

6. INDUSTRIES. Mining, farming manufacturing and commerce.

7. PRODUCTS. Coal, iron, oil, steel, machinery, carpets and ships.

8. CITIES. Harrisburg, capital. Philadelphia, most important commercial city. Noted for manufacture of ships and carpets. Historical importance. "Quaker City" the home of Independence. Pittsburg—"Smoky City"—greatest steel manufacturing city.

Chapters XXVIII, XXIX, Carpenter.

Fifth Week.

LESSON 1.

STUDY OF NEW YORK STATE.

(Empire)

1. LOCATION. Northeast part of United States. (Direction from other states.)

2. BOUNDARIES. On the north by Canada, Lake Ontario. East by Vermont, Massachusetts and Connecticut. South by New Jersey and Pennsylvania. West by Lakes and Canada.

3. SIZE. About 49,000 square miles. Population over 7,000,000.

4. CLIMATE. Temperate, cold winters and hot summers. Moderate rainfall.

5. SURFACE. Generally rolling, mountainous in the east. Discussion of glacial period. Lake basins and river bed cut out by movements of the glacier. Finger Lakes Basin and Hudson River Valley so formed.

MOUNTAINS:

Catskill, southeastern part, summer resort.

Adirondack, forest covered mountains in north. Hunting and fishing.

LESSON 2.

7. DRAINAGE. New York has many fine rivers and many beautiful lakes.

1. Hudson River, "Rhine of America," noted for its scenery, is the most important commercial highway of the state. At Cohoes it connects with the Erie Canal and forms an all-water route from New York City to the Great Lakes.

2. Mohawk River, branch of the Hudson, running east. Drains a fertile valley.

3. Genesee River supplies excellent water power. A factor in the growth of Rochester as a manufacturing city. Trace these river on the maps.

8. RESOURCES. Good soil, forests, excellent harbor of New York together with rivers, lakes and canals make it one of the most accessible states in the Union.

9. INDUSTRIES. Manufacturing and commerce (most important state, farming and dairying, lumbering in Adirondacks, salt mining.

10. PRODUCTS.

Manufacturing, novelties, machines and in fact any article from a locomotive to a pin.

Farming, Granges (wine), apples, (cider, vinegar, hay, potatoes, garden truck.

Dairying. Milk, butter and cheese.

Mining. Salt and soda.

Home study. Read from Carpenter page 59, two paragraphs.

LESSON 3.

IMPORTANT CITIES.

1. Albany, noted for being the capital —scenery.

2. New York—most important commercial and manufacturing city in America.

3. Buffalo—largest lake port and shipping city. At the head of lake navigation.

4. Rochester—manufacture of optical goods, centre of grape and fruit growing industry.

5. Troy—manufacture of shirts, collars and cuffs.

6. Syracuse—salt and soda refining.

Educational centres.

New York City, Columbia University.

Ithaca, Cornell University.

Poughkeepsie, Vassar College (Women).

West Point on the Hudson River—government school for the training of army officers.

Review of the State.

Map-drawing of the state showing two mountain ranges, three rivers, five largest cities, Erie Canal.

Sixth Week.

STUDY OF NEW YORK CITY.

LESSON 1.

1. REASON for detailed study.

1. Most important city in the United States.

2. Our own city.

2. LOCATION. New York City is in the southeastern part of New York State, located on several islands at the mouth of the Hudson River.

3. REASONS for New York's greatness.

1. Sinking of land formed the finest harbor on the Atlantic coast.

2. At the mouth of the Hudson River.

3. Location on islands gives an immense water-front.

4. Building of Erie Canal made New York City the receiving port of western products.

4. Respects in which New York City leads.

1. Size. Largest in United States and second to London.

2. Population. Almost 5,000,000 people, most cosmopolitan city in the world.

4. Commerce. Controls 1/5 of United States foreign commerce.

5. Manufacture. 2/3 of all the manufacturing done in entire state is carried on in New York City.

Lesson 2.

5. Topography of New York Harbor and surrounding waters.

1. The Hudson of New York consists of the Upper Bay and Lower Bay connected by the Narrows.

2. Bays. Flushing, Jamaica, Gravesend, Raritan.

3. Rivers. East River, Hudson River, Harlem River.

4. Creeks. Newtown, Spuyten Duyvil.

6. Topography of the City. New York City consists of five boroughs: Manhattan, Bronx, Brooklyn, Richmond and Queens. (Direction of each borough from the others—bodies of water separating them.)

Islands. Blackwells, Wards, Randalls, Ellis, Liberty or Bedloes, Governors.

7. Importance of Boroughs.

1. Manhattan has largest manufacturing and commercial interests, greatest population and wealth.

2. Brooklyn is a residential borough. Second to Manhattan in manufacturing and commerce (Gowanus and Wallabout sections). Formerly a separate city, but consolidated in 1898, with New York as a borough of the Greater City of New York.

3. Bronx. Third in importance, rapidly growing borough.

4. Richmond, less thickly populated —residential borough.

5. Queens—Long Island City.

Lesson 3.

8. Places of Interest.

1. Parks. Central, Prospect, Van Cortlandt, Bronx, Pelham Bay, Fort Greene, Battery, Forest Park. (Located in respective boroughs.)

2. Public Buildings. City Hall, Hall of Records, Criminal Court Building. U. S. Treasury, Post Office, Municipal Building (construction).

3. Museums. Natural History and Metropolitan Museum of Art, Aquarium, Brooklyn Institute of Arts and Sciences.

4. Forts and Navy Yard. Hamilton and Wadsworth protect the Bay; Schuyler, Totten and Fischer protect the Sound.

Brooklyn Navy Yard (discuss and, if possible, conduct an excursion).

5. Streets.

Broadway, most important thoroughfare.

Fifth Avenue, residences of wealthy people.

Wall Street, center of wealth. (Read from Carpenter, pages 57 to 75.) Stock Exchange.

Fulton Street, Brooklyn, business street.

Lesson 4.

9. Means of Transportation.

1. Bridges. Brooklyn, Williamsburgh, Manhattan, Queensboro.

2. Subways. Manhattan from Battery to Queensboro; Bronx connects with tunnel and continues in Brooklyn.

3. Ferries. Earliest means of interborough transportation.

4. Surface and elevated lines.

5. Tunnels. McAdoo under Hudson, Pennsylvania under Hudson, one under East River under way.

10. Steamship lines.

Hamburg-American Line. Amerika.

North German Lloyd. Kaiser Wilhelm II.

Cunard. Lusitania, Mauretania.

White Star. Celtic, Cedric, Oceanic, Olympic.

American Transport Line. Indiar names for boats.

11. Railroads.

New York Central. Depot at 42nd Street, Grand Central Depot.

Pennsylvania. 8th Avenue, 30 and 31 Streets.

Long Island Railroad.

Lackawanna and Erie. (Carpenter VII, VIII.)

Seventh Week.

SOUTH ATLANTIC STATES.

Lesson 1.

1. Location. Occupy the southern part of the Atlantic slope.

2. Boundaries. North by Pennsylvania, New Jersey and Ohio. East by Atlantic Ocean. South by Gulf of Mexico and Florida Straits. West by South Central States.

3. Climate. Generally warmer than North Atlantic States, with abundant rainfall except in mountainous regions where they have severe winters. Winds usually come from the Gulf bringing heat and moisture.

4. Surface. This group lies for the most part in the Coastal Plain. Appalachian System extends through extreme western portion and forms the western portion and forms the backbone of the group.

5. Coastline. More regular than in North. Sandy and dangerous because of shoals.

1. Bays. Delaware, Chesapeake, Tampa.

2. Sounds. Albemarle and Pamlico.

3. Gulf. Gulf of Mexico.

4. Capes. May, Heneopen, Charles and Henry, Hatteras (most dangerous to navigation), Fear and Sable.

5. Peninsula. Florida.

Lesson 2.

6. Drainage. The rivers are broad and sluggish and generally navigable for long distances. Many overflow their low banks in the spring, especially in Florida, and the country becomes swampy.

1. Potomac River, Virginia and Maryland boundary.

2. James.

3. Savannah, boundary between South Carolina and Georgia.

4. St. Johns.

7. Resources.

1. Good, fertile soil and abundant moisture.

2. Mineral deposits.

3 Shallow, sandy bays.

8. Industries.

1. Agriculture carried on in some form in every state.

2. Mining.

3. Oyster raising, fishing.

4. Lumbering and gathering or turpentine.

5. Sponge and coral gathering.

9. Products.

Agricultural.

Delaware, Maryland. Fruits and vegetables.

Virginia. Tobacco and peanuts.

Carolinas—Rice and cotton.

Georgia. Cotton.

Florida. Tropical fruits.

Mineral. Va., W. Va. and Ga.; coal and iron.

Fish—Oysters from Maryland. Chap. V.

Lumber—Yellow pine, turpentine. rosin, and by-products such as paints and varnishes from Georgia.

LESSON 3.

10. CITIES.

Baltimore. Railroad center. Center of oyster raising and canning industry. Manufacture of cigars.

Richmond. Leading tobacco market of Virginia. Capital of state.

Wheeling, W. Va. Manufacture of steel because of its nearness to coal and iron region.

Charleston. Shipping port for rice and cotton.

Norfolk. Peanut market.

Annapolis. Naval training school.

Jacksonville. Fruit-shipping market.

Tampa and Key West. Manufactures and shipment of cigars; tobacco obtained from Havana. Cuba.

Read Chapters XIV, XV, XVI in Carpenter.

LESSON 4.

EXPORTS. Raw cotton to North Atlantic States, Great Britain and Germany.

Tobacco, peanuts, cigars, rice, turpentine, varnishes, sponges, tropical fruits (lemons, oranges, pineapples).

IMPORTS. Manufactured articles of all kinds. Tobacco and sugar from Cuba.

Eighth Week.

SPECIAL STUDY OF VIRGINIA AND WASHINGTON.

LESSON 1.

1. Location. Eastern part of United States.

2. Boundaries.

3. Size. Little smaller than New York and similar to that state in its triangular shape.

4. Climate. Warmer than New York, with abundant rainfall.

5. Surface. Fertile coastal plain except in extreme west. Allegheny and Blue Ridge mountains.

6. Resources. Soil, mineral deposit; good harbors for shipping.

7. Industries. Agriculture, tobacco and peanut farming.

Mining. Iron and coal.

Commerce. Shipping of tobacco, cigars, peanuts.

LESSON 2.

Review by reading of Chapter XII. Carpenter.

LESSON 3.

CITIES. Richmond, capital of Virginia. (Centre of Confederacy and of historical interest in Civil War.) Largest tobacco market in the world.

Norfolk. Peanut market, fine harbor.

Read from Carpenter, Chapters II, III, IV, on the National Capital.

LESSON 4.

Written test for the month reviewing South Atlantic States.

Ninth Week.

SOUTH CENTRAL STATES.

LESSON 1.

1. LOCATION. South Central part, occupying southern half of the Mississippi Valley.

2. BOUNDARIES. On the north by North Central States. On the east by South Atlantic States. On the south by the Gulf of Mexico and on the west by Mexico, Rio Grande River and New Mexico.

3. SURFACE. These lie in the Gulf Coastal Plain. In the eastern edge we have the Appalachian Highland and in the western part of Texas the foot hills of the Rocky mountains. Rivers are as high as the surrounding country, overflowing and leaving the land swampy, along the Gulf. (Discussion of the levees.)

4. CLIMATE. The eastern and western mountainous sections have mild sum-

mers and cool winters. The Gulf winds are warm and moist, and as the land is level, they are able to cover most of it. In the western part of Texas the winds contain little moisture and it is very dry. Here they have very extreme weather.

LESSON 2.

5. DRAINAGE. This group is drained by the southern or lower course of the Mississippi River system. The rich alluvial soil is brought down from the north, east and west by the river and its branches.

1. Mississippi, largest river in the United States, runs through this group and furnishes an all-water route from the Gulf to all parts of the group.

2. Ohio, eastern branch, transportation into the Appalachian mountains, brings the South into touch with these resources.

3. Arkansas, western branch, connects the South with the West.

4. Rio Grande, boundary between United States and Mexico, was the scene of Mexican War.

LESSON 3.

6. RESOURCES. Good soil — navigable rivers—mineral and stone deposits.

7. INDUSTRIES. Agriculture. Carried on in all states. Cotton is the chief crop. Alabama, Mississippi and Texas produce cotton valued at millions of dollars each season. In Louisiana and along the coast of Texas the soil is adapted to the growing of rice and sugar cane. Most of the labor employed on these plantations is negro. Page 24, Niver's Geography).

Grazing. Expansive tracts in Texas are devoted to the raising of cattle, sheep and hogs. Discuss life on a ranch (page 24, Niver).

Mining. Kentucky, Tennessee and Alabama for coal and iron. Building stones, lead and zinc in the Ozark mountains. Much oil is obtained from wells dug in Texas.

LESSON 4.

8. PRODUCTS.

EXPORTS. Rice, cotton, sugar, hides. meats, wool, oil.

9. CITIES.

New Orleans, leading city of the south, situation near the mouth of the Mississippi River makes the market for products northern, northwestern and southern sections.

Vicksburg, Memphis and Louisville are river ports.

Galveston, Houston and Mobile are coast cities, chief shipping ports.

Practice in finding cities on map. Locate capitals of states.

Tenth Week.

LESSON 1.

Read from Carpenter. Chapters XVII. and XVIII.

LESSON 2.

SPECIAL STUDY ON MISSISSIPPI.

(The Cotton State.)

1. LOCATION. In the southeastern part of the United States (direction from other states). Boundaries.

2. SURFACE. Generally low, The western part lower than the level of the Mississippi River and separated from overflow by levees. The soil is rich and mostly alluvial having been deposited by rivers many centuries ago.

3. CLIMATE. The climate is warm and the rainfall heavy.

4. INDUSTRIES and PRODUCTS. The people of Mississippi are mainly engaged in raising cotton, in which occupation the state ranks next to Texas. A vast amount of labor is required in growing cotton. One plantation of a thousand acres keeps hundreds of hands busy throughout the season. (Niver's, page

56; Carpenter's Geography, pages 110, 114).

Cotton is one of our most valuable crops. About 2/3 of the crop is exported to foreign countries and is valued at $400,000,000. The other third is manufactured into cotton cloth and yarn in the factories.

Forests. Mississippi has forests of yellow pine, cypress and oak. The manufacture of lumber is next to the cotton industry.

Cities. The leading cities are Natchez and Vicksburg, both located on the Mississippi River, and both are shipping points for cotton.

LESSON 3.

Read Chapter 19, Carpenter.

LESSON 4.

Written review or test of work on South Central States.

Eleventh Week.

NORTH CENTRAL STATES.

LESSON 1.

NAMES OF STATES.

1. LOCATION. In the north central part of the United States, occupying the northern half of the Mississippi Valley.

2. BOUNDARIES. On the north by the Great Lakes and Canada. On the east by Pennsylvania. On the south by the South Central States, and on the west by the Western States.

3. SURFACE. The surface of this group is generally level or rolling and is in the prairie section. The eastern part of Ohio is in the Allegheny Plateau. In the southern part of Missouri are the Ozark mountains, and in the western part of North and South Dakota, Kansas andNebraska are the Black Hills of the Rocky Mountains.

4. CLIMATE. These states have an extreme climate, which is caused by the fact that they are in the temperate zone far from any large bodies of water.

LESSON 2.

5. DRAINAGE and TRANSPORTATION.

1. *Rivers.* Mississippi River System includes all important rivers of this section, except the Red River of the North and a few short streams flowing into the Great Lakes. 9,000 miles of navigable streams in Mississippi-Missouri System. Trace courses of both.

2. *Lakes.* Great Lakes (Superior, Michigan, Huron and Erie).

3. *Canals.* Chicago Canal from Mississippi River to Lake Michigan makes it possible to go by water from New Orleans to New York. "Soo" Canal connecting Lakes Michigan and Superior.

6. RESOURCES.

1. *Good soil.* Very fertile, free from rocks and stones. Attracted thousands of New England farmers and caused rapid growth of this section. Much of it is alluvial and others glacial (explain).

2. *Mines.* Along the shore of Lake Superior is found the best iron region in the world. Copper, lead and zinc found in the Ozark Mountains of Missouri.

3. *Forests.* Throughout northern section.

7. INDUSTRIES.

1. *Agriculture.* These states are the most productive farming region in the world. Two most important crops are corn and wheat. Annual corn crops valued at $1,100,000,000 alone (Chapter XX in Carpenter). Illinois, Ohio Indiana, Missouri, Kansas, Nebraska, Iowa, Minnesota and the Dakotas for the greatest wheat growing region and

have been called "Bread-basket of North America." Besides wheat and corn immense crops of barley, rye and oats are grown.

2. *Ranching.* More Cattle and hogs are raised than in any other group.

LESSON 4.

3. *Lumbering.* Carried on in same way as in North Atlantic States. Near the forests and along the short streams supplying water, are many sawmills and factories where furniture, wagons, boats and building materials are prepared for market.

4. *Mining.* Lead and zinc are mined in Missouri; coal and iron in Minnesota, Wis., and Michigan; salt in Michigan and Kansas; clay in Ohio.

5. *Manufacuring.* Ohio, being near the coal and iron fields of Pennsylvania and having a demand for steel tools and machinery, leads in manufactures. The greatest manufacturing industry is, however, the curing, packing and canning of meat. In Minnesota the manufacture of flour is most important. Furniture and leather goods, beer and malt liquors are important products.

Twelfth Week.

LESSON 1.

6. *Commerce.* Owing to the splendid natural means of transportation together with the canals and railroads, this section is rapidly growing in commercial importance, and its cities are becoming rivals of our eastern cities.

8. CITIES.

Chicago on Lake Michigan is the greatest grain, meat, and lumber market in the world, and has, in its existence since 1830, become the second city of the United States. Railroad center.

St. Louis, at the junction of Mississippi, and Missouri Rivers, is noted for its meat packing industry.

Indianapolis, greatest flour manufacturing city.

Other important cities are Cincinnati, Cleveland, Milwaukee, Detroit, Duluth.

LESSON 2.

Read Chapters, XX, XXIII, Carpenter.

LESSON 3.

Chapter XXII, Carpenter.

LESSON 4.

SPECIAL STUDY OF ILLINOIS.

1. LOCATION. North central part of United States.

2. SIZE. Smaller than New York.

3. BOUNDARIES. From map.

4. SURFACE. Level.

5. CLIMATE. Severe, but with long enough summers to permit corn crop to ripen.

6. INDUSTRIES. Agriculture is most extensively carried on, the crop being corn. Barley and oats are also raised. In the large cities much manufacturing is carried on. Meat packing is the most important. The stock yards of Chicago are famous the world over. Furniture is manufactured and, since they are near coal and iron regions, much steel. At Pullman near Chicago all kinds of cars are built.

Thirteenth Week.

LESSON 1.

Read from Carpenter, Chapter XXX.

LESSON 2.

SPECIAL STUDY OF MINNESOTA.

1. LOCATION. In the north central part of the United States.

2. BOUNDARIES. From map.

3. SURFACE. Is a plateau containing many rivers, lakes and forests. It contains the Height of Land which determines the courses of the United States and the Canadian Rivers. The Mississippi and Nelson Rivers rise in this state.

4. CLIMATE. The climate of Minnesota is intensely cold in winter and hot in summer. There is plenty of rain in the spring and early summer.

5. THE SOIL of this state is smooth and fertile and was once an ancient lake bottom.

6. INDUSTRIES.

Growing of wheat and barley is the leading industry. Dependent upon this is the manufacture of flour. The upper course of the Mississippi River has many falls and the water power they furnish keeps many mills in operation. The farms in the valley of the Red River send their grain by rail to Minneapolis and St. Paul. Much wheat is also taken to Duluth, where it is shipped in whaleback steamers to Buffalo and other lake ports and on to New York for foreign countries.

Mining is extensively carried on in the low mountains of this state and immense amounts of iron ore are shipped from Duluth.

LESSON 3.

Read from Carpenter, Chapter, XXI.

LESSON 4.

Test on North Central States.

Fourteenth Week.

WESTERN STATES.

LESSON 1.

Names of states.

1. LOCATION. In the western part of the United States extending from Canada to Mexico.

2. BOUNDARIES. On the north by Canada; on the east by the North and the South Central States; on the south by Texas, Mexico and Gulf of California; on the west by the Pacific Ocean.

3. SURFACE. The surface of this group consists of a high plateau crossed by the Rocky Mountain System and cut by many narrow river valleys.

The Rock Mountain System consists of many smaller ranges, as follows:

1. Cascade Mountains, Washington and Oregon.
2. Coast Range, California.
3. Sierra Nevada, California and Nevada.

LESSON 1.

4. Rocky Mountains, Montana, Wyoming, Utah, Colorado, New Mexico.
5. Sierra Madre, New Mexico and Arizona.

The mountains are the loftiest in the United States and have many noted peaks:

Mt. Hood in Oregon.
Mt. Rainier in Washington.
Mt. Shasta in California.
Pikes Peak in Colorado.

LESSON 2.

4. CLIMATE. The climate of this group is remarkable for its variety. The two causes for this are elevation and direction of winds. The prevailing winds are western. South of Oregon, however, these winds die away before the summer season and for several months the air is dry and the skies are cloudless. Then the crops must be preserved by irrigation or artificial drainage. In Oregon and Washington, west of the Cascade Mountains, the warm, moist winds blow throughout the year and these sections receive the heaviest rainfall of the entire country. The high plateaus and mountains of the interior receive a moderate rainfall but the low plains and valleys none. The cool air of the mountains having condensed most of the moisture, the winds then pass over the warm plains and become heated. Then they absorb the little moisture left and leave the plains dry. In New Mexico and Arizona we find there is no rainfall at all and there the heat is unendurable. The climate of

the higher sections is healthful and invigorating, and the dry air is especially beneficial to tuberculosis patients.

5. COASTLINE. More regular than in the east. Only important indentations are Puget Sound in Washington, San Francisco and Los Angeles Bays in California.

Capes are Flattery, Mendocina and Blanco.

LESSON 3.

6. DRAINAGE. (Irrigation.) The streams of the upland are very useful for watering the dry and unproductive lowlands. Immense reservoirs have been built to hold millions of gallons of water. This water is held for dry season when the farms need it. The government of the United States has done much work in this line and private companies also make a business of storing and selling irrigation water to farmers (page 40, Niver's Geog; pages 299, 300, 301, Tarr and McMurry's Geog.)

Owing to the drying quality of the winds many of the small streams starting in the Rocky Mountains shrink in size and in summer dry up altogether.

Trace on maps the source, direction of flow of the Rio Grande, Colorado, Columbia, Sacramento and San Joachim Rivers.

Colorado River with its Grand Canon in Arizona and lesser one throughout its entire course is unequalled for grandeur of scenery.

Columbia is navigable for a distance of 150 miles. In the spring the river is full of salmon. The fish are caught, cleaned and canned in the cities along the river and shipped to all parts of the United States.

Sacramento and San Joachim Rivers drain the central valley of California and make the immense crops possible.

The Western States have few lakes. The most important is the Great Salt Lake of Utah. This lake has an inlet stream but no outlet. The immense quantities of minerals and salts that are brought down from the rock sources of the streams are deposited here. Salt Lake has become a health resort where people bathe.

Chapter XXXIV, Capenter's Geog. Reader.

LESSON 4.

VII. RESOURCES AND INDUSTRIES.

Mines. The discovery of gold in 1848 attracted many settlers. As mining grew to an industry, silver, lead, mercury and copper were found.

(Prospecting, panning, hydraulic mining treated briefly.) This region is now the most productive mining region in the world.

Forests. The rainy regions of the northwestern parts contain the finest forests found anywhere in the world. The trees average from 200-300 feet in height. The trees are cut down and hauled to saw mills in the large towns and cities where lumber is manufactured.

LESSON 4.

Farms and Grazing. For many years mining was the chief industry of the Western States. Then it was found that sheep and cattle could be raised profitably. Later when the methods of irrigation improved, it was found that barley and wheat and fine fruits could be raised easily. The dry sunny climate is very favorable.

The ranches or sheep farms of the west produce nearly 2/3 of all the sheep and wool of the United States. The plains are covered with rich grasses and alfalfa which are especially adapted to the sheep. They are sheared in the early summer so that a new fleece will grow before the cold weather comes again.

8. PRODUCTS.

Mineral. Gold, silver, lead, copper mercury and zinc.

Agriculture. Wheat, barley, hops, oranges, grapes, figs, lemons, olives, pears and nuts.

Animal. Wool, hides, meat, bone.

Lumber. Lumber, masts, building materials, furniture.

Fish. Salmon, fresh and canned.

Manufactured. Wines, olive oil, flour.

Fifteenth Week.

LESSON 1.

CITIES AND COMMERCE.

At first there were only small mining camps in the west. As the industries grew the cities also developed. The needs of the miners and farmers and ranchmen had to be supplied and trading centres grew up, which were so located that supplies of food, clothing, tools, and machinery were easily secured. Denver Helena and Pueblo grew up in that manner.

Along the coast where foreign commerce was possible, San Francisco, Portland, Seattle and Los Angeles soon became important. They are the railroad centers and receive the goods from the interior for export.

Location of cities from the maps in pupils' books.

LESSON 2.

Some of the wonders of the west.

Chapters XXXI, XXXII, in Carpenter.

LESSON 3.

Chapter XXXVII in Carpenter.

The Pacific Northwest.

LESSON 4.

Written test on the Western States.

Sixteenth Week.

LESSON 1.

SPECIAL STUDY OF COLORADO.

(Mining State.)

Location and direction from other states in the group (maps).

BOUNDARIES.

1. SURFACE. Colorado has level plains in the east, plateaus in the central part and lofty mountains in the western part. The dividing ridge and the highest peaks of the Rocky Mountains are in Colorado (Pikes Peak).

2. CLIMATE. Dry and healthful. Attracts thousands of lung patients.

3. DRAINAGE. Four great rivers rise in this state, Platte, Colorado, Arkansas and Rio Grande. There upper courses are swift and their beds rocky so they do not serve any particular purpose.

4. RESOURCES, INDUSTRIES AND PRODUCTS.

Colorado's mines now produce more gold and silver than any other state and much copper, lead, iron and coal besides. The other industries of the state are unimportant and are carried on merely to supply the people of the mining towns with food, vegetables, clothing and other necessities.

The cities have all grown up dependent on the mining. Leadville, Denver, Colorado Springs, and Pueblo are the most important (locate on map).

LESSON 2.

Read Chapter XXXIII, Carpenter.

LESSON 3.

SPECIAL STUDY OF CALIFORNIA.

(Land of Fruits and Flowers.)

LOCATION. Direction from other states in group—boundaries—coastline (from maps).

1. SURFACE. Along the coast we find the Coast Range. In the central part a fertile valley and in the west the Sierra Nevada Mountains.

2. CLIMATE, SOIL. The Pacific slope has a mild climate throughout the entire year. In the northern part the rainy winter is accompanied by heavy fogs and occasionally the weather is severely cold. In the southern part where the winds

are dry, we find many deserts, where there is no rainfall at all. The streams of the state are short and rapid and do not sufficiently drain the land. Most of the land is fertileized by means of irrigation.

3. Resources, Industries and Products.

The agricultural products are more valuable than the mineral. In the northern half of the state the wheat, barley, oats are grown. Immense quantities of beets for their sugar are also produced. In the southern part of this valley is devoted to the raising of grapes, oranges, lemons, figs, olives and nuts. These are carefully packed by Chinese and Japanese laborers and sent to all parts of the world. Much fruit is dried and preserved. The grapes are made into wines and exported to all parts of the world.

In mining, California is still the second state. Gold, silver and quicksilver, tin, and salt are found in immense quantities in the western part of the state.

4. Cities.

San Francisco. Chief seaport and railroad center. Destroyed in 1906 by earthquake, immediately rebuilt. Beautiful situation on San Francisco Bay.

Sacramento . Capital and center of grain-growing section.

Los Angeles. Second in size. It is in the center of the fruit region and is the chief exporting city of that product.

Lesson 4.

Read Chapters in Carpenter, XXXV, and XXXVI.

Seventeenth Week.

REVIEW OF THE UNITED STATES AS A WHOLE.

Lesson 1.

1. Areas of Production.

The great natural divisions are divided into areas or sections, in which one or more products are more valuable than in any other section. The handling, manufacture and shipment of these products give employment to thousands of people. The manufacturing is done in cities in or near the areas of production. Railroad and steamship lines are established to carry the products from place to place.

Lesson 2.

2. Growth of important cities.

The discovery of gold in California. Colorado and Nevada led to the growth of San Francisco, Denver and Goldfield. In Montana the working of the copper mines led to the founding and growth. Butte and Helena, these and dozens of other small cities were at first nothing but railway stations, to which the supplies, clothing and machinery were shipped. The small merchants of these towns buy from the wholesale dealers of the larger cities which are centers of trade. The manufacturing cities are nearly all in the eastern half of the United States. Certain cities are famous for making one certain article, because the raw materials are near at hand.

Minneapolis—flour because of its location in the wheat-growing section.

Pittsburg—steel because it is in the iron and coal area.

St. Louis, Chicago, Omaha—meats because of their location in the grazing section.

New Orleans—sugar and cotton market because it is at the mouth of the Mississippi and in the center of the suger and rice growing section.

Question on other cities.

Transportation and Communication.

The telegraph, steamship and railroads have helped in the growth of our nation as much as our natural resources. Without these resources which man has in-

vented the natural ones would have little value. The corn, cotton, sugar and fruits would be useless to the farmer if he did not have the facilities to send his goods to the markets. The growth of inter-state commerce has been made possible by the vast system of public highways and railroads. The rivers, lakes and canals provide a slower and cheaper means of inland transportation. These means are suitable for freight that is not perishable, as grain, ore, oil, lumber, bricks and manufactured articles. The railroads provide a more speedy means and carry the greater proportion of freight, and almost the entire inland passenger service is train service.

LESSON 3.

Pages 80-81-82 in Niver's Geography give us an idea of the railroad lines which are carrying our goods to the different sections of the nations and taking us, on business or pleasure, to the many cities of our country. Around and in the cities the trolley lines play an important part in the increase of business, since people can live at some distance from the cities and yet commute each day in order to carry on their trade or business in the neighboring city.

LESSON 4.

TRANSPORTATION BY WATER.

INLAND.

In early times rivers and canals were the only means of inland transportation. With improvements in canal-building this means has been steadily bettered. Erie Canal, "Soo" Canal, Chicago Canal and the canals of the Delaware River which bring the products of Pennsylvania close to the great cities of New York and Philadelphia.

OCEAN.

Pages 83-84 in Niver's Geography tell us the names of the most important steamship lines. Some of these are foreign lines and others make short trips along our own coast.

This is called "coast trade." The The United States government has provided by law that our coasting trade shall be carried on entirely with American vessels. Names of important coast liners found on page 85 of Niver's Geography.

Eighteenth Week.

LESSON 1.

MEANS OF COMMUNICATION.

Rapid communication is of utmost importance in modern business. An importing merchant could not possibly wait to send an order to France, Germany or other foreign nations by letter. (Illustrate delays and result to business). In affairs of the government also, speedy communication is a necessity. The cable and telegraph connecting our cities with each other and with foreign cities has made it possible to send in a short time (time) messages require hours and in some cases even many days to send. The telephones are now no longer confined to sending messages within the cities, but, by means of the long distance system we can be connected with the nearer cities.

Read account of first telegraph and cable lines. Page 85, Niver.

LESSON 2.

COMMERCE.

Our country produces a great deal more of some things than it can use, and on the other hand we need a great many things that we do not produce at all. For instance, the United States uses only one-third of its output of cotton and always has an immense quantity of wheat, meats, oil and live-stock which cannot be sold at home. Our mills and factories can manufacture iron and steel goods, machinery, tools and hardware

so cheaply that it is profitable for us to sell them to other countries. We do not however, produce a great many things we need. Coffee, teas, silk, spices, articles of luxury, such as silks, laces, furs, jewelry and precious stones must be obtained from foreign countries. This exchange is called commerce.

LESSON 3.

EXPORTS AND IMPORTS.

Our commerce is carried on by merchants. Those who sell to other countries are called exporters and the goods are called exports. Those who buy the goods in foreign countries and sell at home are called importers and the goods imports.

Our most important exports are cotton and food products, iron and steel goods, machinery and hardware. Our best customers are Great Britain and Germany, but much is also sold to Mexico and Canada and the South American countries. Nearly every country in the world, except Russia buys oil from us.

Our greatest import is raw sugar which we get from Cuba and Hawaii. We also import a great deal of beet sugar from Germany. The United States uses more coffee than any other country. 3/4 of which coffee comes from Brazil. From France we get silks, woolens, and fine velvets. Raw silks, tea and spices from the countries of Asia.

LESSON 4.

Map of the United States drawn, if progressive outlines cannot be obtained. Ten largest cities—productive areas (cotton, rice, sugar, corn, wheat, coal, iron lumber, gold, silver, fruits) indicated.

5B GRAMMAR.

By Alida M. Brennan.

First Week.

Teach *sentence.* A sentence is a group of words so arranged as to express a complete thought.

Kinds of sentences.

1. Declarative.
2. Interrogative.
3. Imperative.
4. Exclamatory.

A *declarative* sentence is a sentence used to express a statement.

An *interrogative* sentence is a sentence used to ask a question.

An *imperative* sentence is a sentence used to express a command, a request, or entreaty.

An *exclamatory* sentence is a sentence used to show strong feeling.

Second and Third Weeks.

Teach *verb.* A verb is a word used to say something about some person or thing.

To be learned of *each* verb when taught.

Present form.

Past form

Ing form.

Future form.

Have, has, had form.

Not to be *taught formally,* but in sentences as training in recognition of any *form* of verb.

May, might, could, would, should and *must* form.

Dwell on *action* verb and *helping* verb. Emerson-Bender, page 35.

Give term *phrase verb.* A *phrase verb* is a verb that has more than one part.

Special work on use of lie, lay; sit set.

Correct use of were, was; do did.

Irregular verbs to be learned during term: See, sing, do, eat, bring, fight, run. drink, take.

Teach see, sing, do, during this week.

Fourth Week.

Order of Sentence. Emerson-Bender. pages 7-8.

Natural—subject at beginning. Carpenter, page 317.

Transposed subject in any other place.

Selecting entire subject and entire predicate in sentences of both orders.

NOTE.—In selecting *entire subject* from sentences of transposed order, have children put sentences in natural order; as, Down the street marched the soldiers. Transposed: The soldiers marched down the street. Use *declarative* sentence only.

Marking of subject word only.

Marking of predicate word only.

(Carpenter, pages 317, 341-364.)

Fifth Week.

Teach analysis of interrogative sentences.

Drill on lie, lay, sit, set.

Teach verbs *eat, run.*

Sixth Week.

Teach *object* word. The *object* is that part of the sentence that indicates the action of the verb.

(Dwell on object following a verb showing *action.*)

In analysis now, mark *object word, subject word. predicate verb.*

Seventh Week.

Teach *noun,* common and proper. Maxwell, pages 75, 76, 77.

A noun is a word used as the name of a person, place or thing.

Maxwell, pages 30-31.

Carpenter, pages 398, 421.

A *common noun* is a name given to a class of persons, places or things.

A *proper noun* is a word used as the name of some particular person, place, or thing.

Carpenter, pages 402, 402, 417.

Eighth Week.

SINGULAR AND PLURAL OF NOUNS.

Formation of plural. Maxwell, pages 78-79.

Most nouns form plural by adding *s* or *es* to the *singular.*

Nouns ending in *y,* preceded by a consonant, change *y* to *i* and add *es* to form plural.

If *a, e,* or *oi* (any vowel) comes before the y, simply add *s* to form the plural.

Some nouns ending in *f* or *fe* change *f,* or *fe* to *v* and add *es* to form the plurals.

Some nouns form the plural by a partial or complete change in the word.

foot, feet; mouse, mice; cow, cows or kine. Maxwell, pages 78-79. Carpenter's Reader, pages 70, 71, 78, 96.

In analysis now mark subject noun predicate verb, object noun.

Have sentence work in changing from singular to plural:

Sing. The child ate its lunch.

Plural. The children ate their lunch.

Sing. The lily is a beautiful flower.

Plural. Lilies are beautiful flowers.

POSSESSIVE FORM OF NOUNS.

Maxwell, page 87.

Carpenter, pages 117, 123, 144, 145.

Sentence work, like the following:

The man's hat was blown off. The men's hats were blown off.

The child's dress is new. The children's dresses are new.

The monkey's teeth are sharp. The monkeys' teeth are sharp.

Ninth Week.

Teach *pronoun.* A *pronoun* is a word used for a noun. Maxwell, page 34.

Carpenter, pages 428, 429, 431, 438, 439.

In *analysis* now mark subject *noun* or *pronoun,* prdicate verb, object *noun* or *pronoun.*

CORRECT USE OF PRONOUN.

It is I, he, she, etc. Carpenter, page 187.

Tenth Week.

Teach *descriptive adjective.* A descriptive adjective is a word used to tell the *kind* of noun. (It tells *color, shape,* size.)

Carpenter, pages 446, 452, 459, 460, 453.

COMPARISON OF ADJECTIVES.

Correct use of comparative form.

Correct use of superlative form.

Comparative form is used when speaking of two persons or things.

Superlative used in speaking or more than two.

Eleventh Week.

Teach *limiting adjective.*

Selecting adjectives from sentences. Carpenter, pages 459-460.

Teach *verbs* bring, sake.

Drill in *correct use* of degrees of *adjectives.*

Correction of aint, bought off, done, off of, etc.

Twelfth Week.

Teach compound subject noun or pronoun. Teach compound predicate.

Teach compound complement (noun or pronoun). Maxwell, pages 62, 63.

Teach use of *conjunction.* 42-43.

Thirteenth Week.

Teach *predicate noun* after verb to be only.

Predicate noun completes the predicate and means the same as subject. (Refer to 4A and 4B work—sentences telling *what things are*). In *analysis* now mark *predicate noun* or *pronoun.*

Fourteenth Week.

Drill in object noun or pronoun.

Drill in predicate noun or pronoun.

Fifteenth Week.

Singular and *plural* of nouns reviewed.

Possessive forms reviewed.

Comparison of adjectives reviewed.

Drill on parts of speech taught thus far.

Carpenter, page 470.

Teach verbs fight, drink.

Elliptical sentences on verb work. Maxwell, pages 165-166.

Sixteenth Week.

Teach predicate adjective. (Refer to 4A and 4B work. Sentences telling of what *quality* things are—quality word is called predicate adjective.)

Predicate adjective completes the predicate and describes the subject. (In analysis now mark *predicate adjective.*)

Seventeenth Week.

Drill on what *complements* a verb may take.

Action verbs take *objects.*

Verb to be takes a *predicate* noun or *predicate adjective.*

Proper use of *pronoun* after *is, were,* etc.

Use of lie, lay, sit, set.

Eighteenth Week.

Predicate noun or *pronoun* after verb *remain, seem, become.*

Drill on what part of speech, words underlined are. Carpenter, page 470.

Show how same word may be used as different parts of speech. Have children see that, part of speech a word is depends upon its *use* in a sentenence.

He bought a *rain* coat (adj.).

The *rain* fell heavily (noun).

It will *rain* (verb).

Nineteenth and Twentieth Weeks.

Introduce written analysis.

s.n. p.v. obj.n.

A small boy carried a large flag.

This is a declarative sentence. *Entire subject.* A ——— boy. Entire predicate carried ——— flag. *Subject noun boy,* is modified by the limiting adjective *a,* and the descriptive adjective *small.*

Predicate verb, carried, completed by the object noun *flag.* Object noun *flag,* modified by the limiting adjective *a,* and the descriptive adjective *large.*

5B COMPOSITION.

By Mary J. Montgomery.

First Week.

Model composition—narra[redacted]

Topical outline—model.

Topical outline constructed from new material.

Oral composition from new material

Original composition written.

Reading and correction.

Model letter—business application for position.

Topical outline deduced.

Drill on correct forms of lie (Longman's English Lessons, page 16).

Suggested topics for narration.

The Wooden Horse.

The Hare and the Tortoise.

The Little Drummer Boy.

THE WOODEN HORSE.

The Greeks and the Trojans once had a war. This war lasted ten long years. At the end of that time neither side was victorious.

At last, the Greeks decided to capture Troy by stratagem. Ulysses, their leader had an immense hollow wooden horse made. Inside of this horse he had a number of his men. Then having placed the horse where the Trojans could see it, he pretended to sail away with his men.

The Trojans were astonished at the sight of the wooden horse, and thinking it a gift from the Gods, dragged it into the city. During the night, the soldiers within the horse came out and opened the gates to the Greeks, who came in and conquered Troy.

Topical Outline.

THE WOODEN HORSE.

I. The War.

Countries engaged, length and result.

II. The stratagem.

Wooden Horse (hollow—soldiers inside—where placed—Greeks hide.

III. Horse taken in by Trojans.

a. Gift from the Gods.

b. Soldiers leave horse.

c. Result.

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101 Chestnut St.,
Brooklyn, Jan. 2, 1912.

Messrs. James Moore & Co.,
10 Broad St., Paterson, N. J.

Gentlemen:

Allow me to place myself among the applicants for the position you wish to fill.

I have a thorough knowledge of your class of goods, having had a year's experience with John Wanamaker & Co. of New York, to whom I refer you.

Hoping to receive a favorable reply I am,

Respectfully yours,
JOHN BROWN.

Second Week.

Model composition—description.

Topical outline deduced from model.

Topical outline constructed from new material for original work.

Oral composition from original work.

Written original composition.

Reading and correction.

Written original business letter—applicationfor position.

Drill on correct forms of lay (page 16 Longman).

Suggested titles for description.

The Buffalo.

The Winter Season.

The American Indian.

THE AMERICAN INDIAN.

When the first white men came to our shores the country was inhabited by copper-colored people. These white men imagined the land to be some part of India, so they called the natives indians.

The Indians had reddish skin, coarse jet black hair, and high cheek bones. Their eyes were small and dark.

The Indian's duty was to hunt, fish and fight. He spent his time making arrows, bows, canoes and stone tools. When not engaged in war he joined hunting or fishing parties to provide fod for the women and children.

The Indian woman was called a "squaw." Her duty was to plant corn, carry the water, make the clothing, dress the skins, and carry the household goods.

Topical Outline.

THE AMERICAN INDIAN.

I. Why so called.
II. Description.
  Skin, hair, eyes, etc.
III. Indian's duty.
  Hunt, fish, fight, etc.
IV. Squaw's duty.
  Corn, water, clothing, skins, household goods.

Third Week.

Model composition—exposition.
Topical outline deduced from model.
Topical outline, constructed from new material original work.
Oral composition from original work.
Written original composition.
Reading and (construction) correction.
Model letter—social—narrative.
Topical outline deduced.
Drill on correct forms of set (page 16 Longman).
Suggested titles for exposition:
The Treatment of Animals.
Shoemaking (on reverse side).
Arbor Day.

Model Composition—Exposition.

SHOEMAKING.

Shoes were at one time made of silk, satin, velvet, and other materials as well as leather. The leather which is used in making shoes is the hide or skin of animals. These skins have to be tanned and dried, well stretched, dyed, and polished by rubbing with oil, and tallow to make it soft.

The leather thus prepared is not ready to be cut into boots or shoes. A piece of wood or iron resembling the foot is used as a model for this purpose. Formerly shoes were made by hand. Now a shoe can be made entirely by machine. Soles, lifts, uppers, toe caps are cut out, each one with a single stroke. The invention of the sewing-machine has lessened greatly the length of time it takes to make a shoe.

Topical Outline.

SHOEMAKING.

I. Material used in shoemaking.
  a. Formerly.
  b. At present time.
  Leather tanned, dried, stretched, dyed and polished.
II. Method of making shoes.
  a. Model of iron or wood.
  b. Machine work.
  c. Soles, lifts, etc.
  d. Use of sewing-machine.

Model Social Letter. Narrative.

1747 Fulton St.,
Brooklyn, Jan. 18, 1912.

Dear Rose,

Father has brought home the dearest little puppy. I have named him Spot. I love him dearly.

What do you think he did the other day? He tore mother's nice new table cloth. When I discovered the mischief he had done, I ran and hid him. I was afraid that mother would punish him.

When mother finally saw it, she felt sad but said he was only a puppy, but

that I should have the task of training him to grow up a nice, good dog.

Won't you come over to see my Spot?

I am,

Your loving friend,

SARAH.

Topical Outline.

MODEL LETTER.

I. Heading—address, date.
II. Salutation.
III. Body of letter.
  a. The new puppy.
  b. The mischief done by Spot.
  c. Mother's decision.
IV. Closing of letter.

Fourth Week.

Model composition invention.

Topical outline deduced from model.

Topical outline constructed from new material for original work. Oral composition.

Reading and correction.

Written original composition.

Topical outline of original social letter.

Written original letter—social narrative.

Drill on correct forms of sit (page 16 Longman).

Suggested topics for invention:

Story of an Old Shoe.

The Story of a Lost Penny.

A Street Scene.

THE STORY OF AN OLD SHOE.

I am an little shoe. I was made in Lynn, Massachusetts. When I was made I was bright and new. Now I am torn and worn out. When I think how beautiful I was, I feel sad.

After I was made in the factory I was sent to New York. A storekeeper bought me and placed me in his store-window. I felt very proud when people admired me and asked the price of me.

One day a little girl came into the store and bought me. She was very glad to wear me. She wore me a long time. Soon I became worn out. One day the little girl put me into the fire and I was burned. Then she took me out with the poker and threw me into the ash-barrel.

Topical Outline.

THE STORY OF THE OLD SHOE.

I. Where I was made.
II. Where I was first sent.
  Who bought me.
III. What finally became of me.

Fifth Week.

Model composition—narrative.

Topical outline deduced from model.

Topical outline constructed from new material for written work.

Oral composition for original work.

Written original composition.

Reading and correction.

Model letter—business ordering goods.

Topical outline deduced from model.

Drill on the correct use of come and go (McKeon's Graded Composition Lessons, page 24).

Suggested topics for narration:

Little Red Riding Hood.

The Story of Siegfried.

A Kind Deed.

THE STORY OF SIEGFRIED.

Siegfried was an orphan who spent his childhood with an old dwarf in a hut in the forest. He learned the habits of many birds and animals and tamed them.

In a cave near by dwelt a fierce dragon who kept guard over a great treasure. When Siegfried became a young man he begged the dwarf, who was a smith, to make him a sword to kill this dragon. The dwarf makes several but Seigfried is able to break them all.

Finally he makes one for himself and starts off for the dragon's cave. With his

magic sword he slays the dragon. After this he becomes very powerful.

Siegfried marries Kriemhilda, and, as a secret, tells her he can only be slain by being wounded in his back. Kriemhilda tells her friend, Brunhilda, who tells her husband. Now, this man being jealous of Seigfried, kills him while they are out hunting together.

THE STORY OF SIEGFRIED.

Topical Outline.

I. Childhod of Siegfried.
II. His youth.
  a. The dragon and the treasure.
  b. The swords.
III. The slaying of the dragon.
IV. Siegfried's marriage. His death.

Model Business Letter. Ordering goods.

177 Fulton St., Brooklyn, N. Y.
Jan 18, 1912.

Messrs. Jones, Smith & Co.,
372 Broadway, New York.

Gentlemen:

Please send me by express, as soon as convenient, the following books

24 Longfellow's "Evangeline."
36 Tappan's "Our Country's Story."

Hoping your will give this your immediate attention, I remain,

Yours respectfully,

Name.

Sixth Week.

Model composition—description.
Topical outline deduced from model.
Topical outlined constructed from new material for original work.
Oral composition of original work.
Written original composition.
Reading and correction.
Topical outline constructed from new material for a business letter—ordering goods.
Written original letter.
Drill on the correct use of bring and take.
Suggested topics for description.
The Beauties of Autumn.
Our School.
Our Bicycle Trip.
Model Composition.

OUR SCHOOL.

Our school is situated in rather a crowded section of the city. It is surrounded by the homes of the children, chiefly tenement houses, and business houses.

In shape, our school resembles the letter H. It is built of red and white brick, and towers high above the surrounding buildings. Our school faces on two streets, from which an entrance is afforded to the building.

In side we have spacious halls, large. light, airy class-rooms, a large assembly hall, and a gymnasium.

Topical Outline.

OUR SCHOOL.

I. Situation and surroundings.
II. Outside.
  Appearance, size, shape, color and material.
  Eentrance located.
III. Inside.

Seventh Week.

Model composition—exposition.
Topical outline deduced from model.
Topical outline constructed from new material for original work.
Oral composition from original work.
Written original composition.
Reading and correction.
Model letter—social—description.
Topical outline deduced.
Drill on correct use of "between and among" (Longmans' English Lessons, page 115).
Suggested topics for exposition.
Making of a Camp Stove.
How to Play "Puss in the Corner." (on following page).
Model Composition.

How to Play "Puss in the Corner."

The girls were all anxious to play a game to pass away the rainy afternoon pleasantly. They decided upon "Puss in the Corner." As some of my readers may wish to play it some time, I shall tell you how it is played.

Usually five play in the game. The players are sent to the corners of the room, one to each corner, and one player remains in the center.

Now in their places, they are ready to begin. The object of the game is to change places from corner to corner, without letting "Puss in the center," catch you or reac hyour corner before you do. The "Puss" in each corner calls to another "Puss," "Here, Puss, Puss," and then they exchange places. "Puss in the center," has to keep her eyes open and has many a lively chase before she can catch a corner. The puss whose corner has been taken now becomes the "Puss in the center."

Topical Outline.

How to Play "Puss in the Corner."

I. Choosing the game.

II. Placing the players.

III. What each player does, who loses, etc.

Model Social Letter. Description.

346 Stone Ave.,
Brooklyn, Jan. 20, 1912.

Dear Cousin,

Here we are at last in our new home. I could hardly wait until we were settled to write a description of it to you.

You remember how I admired Lucy's pretty house. Well, ours is the same all but the color. It is a pretty light green with dark green trimmings.

Can you guess what pleases me most in our new home? It is my own little room. Mother had it painted in pink roses for me and bought me a new white bedroom set. I sit for hours in it just gazing at the walls and wondering if it is only a dream.

When you come to stay with me in the summer, I am sure we shall spend many happy hours in it. Give my love to aunt and uncle and believe me,

Your loving cousin,

ELSIE.

Topical Outline.

I. Heading.
Date, address.

II. Friendly salutation.

III. Body of letter.
a. New home.
b. Description.
c. Inside my room.

IV. Closing.

Eighth Week.

Model composition invention.

Topical outline deduced from model.

Topical outline constructed from new material for original work.

Oral composition from original work.

Written original composition.

Reading and correcting.

Topical outline constructed from new material.

Oral coniposition from this new material.

Oral composition of this new material.

Drill on correct use of from following different—"different from" (page 115).

Suggested topics for invention:

Sam Won the Game by His "Home Run."

A Fireman Rescued a Child.

A Rahble Through the Woods.

A Ramble through the Woods.

One sunny day in June, May, Alice and Rose started off on a ramble through the woods. They gathered daisies as they went along and pretty bluecups.

Soon the children began to get hungry and sat down under an apple tree to eat their lunch. Suddenly they heard the faintest "Tweet," tweet," and looking round they found a little robin that had been wounded.

The little girls put some of their crumbs on a piece of paper and then hid themselves. They knew that the robin would not touch it if they were looking. The little bird ate and ate and seemed to gain strength at every mouthful. The girls remained long enough to see the robin fly very timidly, first to the lowest branch and finally to the highest where they supposed its nest was. When they started for home. Alice said, "I wonder who could have been so cruel as to wound that little robin."

Topical Outline.

A Ramble through the Woods.

I. The journey.
  Gathering daisies.
II. Eating lunch.
  The visitor.
III. Feeding the robin.
  The robin safe in its nest.
  Journey home.

Ninth Week.

Model composition—narrative.

Topical outline deduced from model composition.

Topical outline constructed from new material for original work.

Oral composition from new material.

Written original composition.

Reading and correction.

Written original letter—exposition—social.

Reading and correction.

Drill on the correct use of in and into (Longmans' English Lessons, page 115).

Suggested topics for narration:

The Purchase of Manhattan.

Washington's Journey to the French.

The Miller of Dee.

The Miller of Dee.

Once a miller lived on the bank of a little river called the Dee. This miller did not have much money, but he owned a little land, along the river, on which his mill was situated.

This miller was always happy and contented. He had a wife and children who loved him, and he was able to keep out of debt and misery. He continually sang as he worked:

"I envy nobody—no, not I—
  And nobody envies me."

One day while he was singing a handsome man rode up to the miller. He was a king. He was rich and powerful, still he was not happy. He said to the miller, "Miller, how is it that you are so happy, though you are poor and have to work hard?"

The miller told the man that he was happy because he was able to work and had a wife and children to love. The king then turned, and bidding the miller farewell, said, "Do not sing any more that no one envies you; for I would rather be a happy miller by the Dee, than the king on his throne."

Topical Outline.

The Miller of Dee.

I. The miller.
  Where he lived.
II. How he spent his time.
  His song.
III. Meeting the king.
  His appearance.
  What he asked the miller.
IV. Parting between miller and the king.
  Miller's cause for contentment.
  What the king told him.

Tenth Week.

Model composition—description.

Topical outline deduced from model.

Topical outline constructed from new material for original work.

Oral composition from new material.

Written original composition.

Reading and correction.

Model letter—business—acknowledging receipt of goods.

Topical outline deduced.

Drill on correct use of "beside and besides (Longmans' English Lessons, page 115).

Suggested topics for description:

A Cotton Plantation.

Indian's Tools or Weapons.

Summer.

INDIAN'S WEAPONS.

The Indians of our country had never seen guns, gunpowder, metal knives, and swords until the coming of the white men. The Indians used tomahawks, bows and arrows, and iron hatchets. These were made of stone, wood and bone.

In time of war, these weapons were used to kill their enemies. Before they would go to war, they would sharpen their bows and arrows on a stone. Their fishing hooks were made from the bones of fish.

When the Indians saw the white men's weapons they were afraid of them. But in a short time they saw the advantage of these weapons and learned to use them. They would exchange their furs, skins of animals, and their food for the weapons of the white man.

Topical Outline.

INDIAN'S WEAPONS.

I. What the Indians used compared with the white men's weapons.

II. What the Indians did to their weapons in time of war.

III. The Indians begin to use the white men's weapons.

(a) Reason.

(b) How they obtained them.

Model Letter.

Letter acknowledging receipt of goods.

1336 Pitkin Ave.,
Brooklyn, Jan. 17, 1912.

Stern Bros.,
West 23rd St., N. Y.

Gentlemen:

I hereby acknowledge the receipt of the catalogue of children's books as requested in my letter of the 15th. Thanking you for your prompt attention, I am.

Yours respectfully,
Name.

Eleventh Week.

Model composition—exposition.

Topical outline deduced.

Topical outline constructed from new material for original work.

Oral composition from original work.

Written original composition.

Reading and correction.

Topical outline constructed from new material for original work.

Oral composition from new material.

Drill on correct use of the personal pronoun after the verb to be (Emerson & Bender, Book II).

Suggested topics for exposition:

How Anthracite Coal is Mined.

Rice.

My Favorite Game.

MY FAVORITE GAME.

My favorite game is a spelling match. Our teacher usually chooses the two smartest girls to be leaders. They at once begin to call out the girls they wish for their side.

Then when we are ready, our teacher begins to give out the words to be spelled. First one side spells, then the other side. As the girls miss, they sit down. How exciting it becomes when the sides narrow down to five, then one side has three and the other side two.

Finally one little girl is left standing

alone. We hail her as the winner. We applaud, and then teacher usually awards a prize to this successful little girl.

Topical Outline.

MY FAVORITE GAME.

I. The Spelling match.
  (a) Choosing leaders.
II. How the game is played.
  (a) Two sides.
  (b) Spelling the words.
  (c) Exciting time.
III. The winner.
  Her reward.

Twelfth Week.

Model composition—invention.

Topical outline deduced from model.

Topical outline constructed from new material for original work.

Oral composition from new work.

Written original composition.

Reading and correction.

Written original letter — business. notes for absence and lateness.

Reading and correction.

Drill on correct use of pronouns forming part of compound subject as, Mary and he were punished (Emerson & Bender, Book II).

Suggested topics for invention:

Autiobiography of a Base Ball.

The Autobiography of a Lead Pencil.

In the Daisy Field.

THE AUTIOBIOGRAPHY OF A LEAD PENCIL.

My earliest recollections bring back to me a very large, noisy building in which I lived with my numerous brothers and sisters.

For a long while we lay in huge piles on the floor. Then we were placed together in bunches of twelve, fastened together so tightly that we could not move.

We were next packed into dark, close boxes, which, I found very disagreeable. Then we began to travel. We wondered day after day what would become of us.

After a long, tiresome journey we again saw the light of day. Where do you suppose we were? I made out that I was in a large room filled with children. There was a lady in the room whom they called "Teacher."

This lady gave me to a boy. This boy was continually sharpening me because he would break my point. He sharpened me so much that now I am only two inches long and ready to be thrown away.

Topical Outline.

THE AUTOBIOGRAPHY OF A LEAD PENCIL.

I. Where I was born.
II. Packed together.
III. In the closed box, travelling.
IV. The school room.
V. What finally became of me.

Note for Absence.

473 Fulton St.,
January 12, 1912.

Dear Miss Brown.

Kindly excuse my absence on Thursday, January twelfth. I was ill.

Your loving pupil,
Name.

Note for Lateness.

473 Fulton St.,
January 9, 1912.

Dear Miss Brown,

Kindly excuse my lateness on Monday morning, January eighth. I was detained at home by my mother.

Your loving pupil,
Name.

Thirteenth Week.

Model composition—narration.

Topital outline deduced from model composition.

Topical outline constructed from new material for original work.

Oral composition from new material.

Written original composition.

Reading and correction.

Model letter—social—Invitation (informal or friendly).

Topical outline deduced.

Drill on the correct use of pronouns forming part of compound object as, Give it to John and me (Emerson and Bender, Book II).

Suggested topics for narration:

Elaboration of Short Stories, McKeon's Graded Composition Lessons, page 49.

Letter Invitation.

385 Stone Ave.,
January 10, 1912.

Dear Lucy,

Next Monday will be my birthday. Dear mother is going to give me a party on that day. She told me to write and invite you to it. I am sure we shall have a very jolly time.

Your loving friend,
Ida.

Fourteenth Week.

Model composition—description.

Topical outline deduced from model.

Topical outline constructed from new material for original work.

Oral composition from new work.

Written original composition.

Reading and correction.

Topical outline constructed from new material for original work.

Oral composition from new material.

Drill on the correct use of like and as (McKeon's Graded Composition Lessons, p. 26).

Suggested topics for description:

OUR FLAG.

Our flag, the American flag, is composed of three colors, red, white and blue. The red signifies bravery, the whitepurity, and the blue, honesty.

We have thirteen stripes on our flag, seven red and six blue. The stripes commemorate the thirteen colonies which composed our country after the Revolutionary War.

In the upper left hand corner we see a countless number of stars in a blue field. As each state somes into the Union, a new white star is added to the field of blue. By counting the number of stars, we can tell how many states there are in the Union to-day.

Topical Outline.

OUR FLAG.

I. Its colors.
   What each signifies.
II. The stripes.
   Their meaning.
III. The stars.
   Their significance.

Description of a Snail.

The Trees in Winter.

Fifteenth Week.

Model composition—exposition.

Topical outline deduced from model.

Topical outline construed from new material for original work.

Oral composition from new material.

Written original composition.

Reading and correction.

Written social letter—thanks.

Reading and correction.

Drill on correct use of may and can (McKeon's Graded Composition Lessons, p. 73).

Suggested topics for exposition:

HOW COTTON GROWS.

Cotton is a shrub that grows in warm countries. It is planted in March or April. It blossoms about June. The flowers ar red, purple, and yellow. In

August, the cotton is picked. The picking is done mostly by negroes.

The cotton is woven into cloth. The cotton-seed is used in making cotton-seed oil. United States is the greatest cotton producing country.

Topical Outline.

How Cotton Grows.

I. What it is.

When planted; the flowers; when it blooms; when picked; by whom.

II. What is made from cotton.

What is made from the seed.

Which country grows the most cotton.

Trees Ought to have Good Care.

Why Skating is Good Exercise.

Sixteenth Week.

Made composition—invention.

Topical outline deduced from model.

Topical outline constructed from new material for original work.

Oral composition from new material.

Written original composition.

Reading and correction.

Topical outline constructed from new material for original work.

Oral composition from new material.

Drill on correct use of lie and lay.

Review.

Suggested topics for invention:

Our Dog Nero.

Our dog's name is Nero. Father gave him that name but ever since a day last spring we decided his name should be changed to "Hero."

Our neighbor's little girl was playing with her doll near the edge of a pond. It was not a real deep pond, but deep enough for a little girl five years old.

Suddenly the wind tossed her pretty hat into the pond. Little Elsie never stopped to think of danger but immediately ran into the pond to get her hat.

Now, in this pond, there were many rocks hidden from view by the water. In running, Elsie stumbled into the pond and was frightened to death. She screamed. Nero heard her screams and came running up to the pond. When he saw little Elsie, he began to bark furiously and ran into the water. He took her dress in his mouth and began to pull. This proved to be too much for Nero. Then he began to bark again and kept it up until a man who was nearby heard and came to their rescue. Now, don't you think he is a brave little hero?

Topical Outline.

Our Dog Nero.

I. Nero's new name.

II. Where Elsie was playing.

III. The accident.

IV. Nero to the rescue.

What he tried to do.

Barking, which brought assistance.

A Snowball Fight.

A Sad Accident.

Seventeenth Week.

Model composition—narrative.

Topical outline deduced from model.

Topical outline constructed from new material for original work.

Oral composition from new material.

Written original composition.

Reading and correction.

Written original business letter—application for position.

Reading and correction.

Drill on correct use of sit and set.

Suggested topics for narration:

The Goose with the Golden Eggs.

There was once a farmer who owned a goose. It was his custom to go to the nest of this goose every morning to get the egg.

One morning, to his surprise and delight, he found an egg of pure gold. Every morning the same thing occurred

and he soon became rich by selling the eggs.

Now, as this farmer grew rich, he also grew greedy. He wished to obtain at once all the gold the goose could give, without waiting for each morning's supply. He killed the goose, opened it, and found inside—nothing.

Topical Outline.

THE GOOSE WITH THE GOLDEN EGGS.

I. The farmer and his goose.

II. The golden eggs.
The farmer becomes wealthy.

III. he greedy act of the farmer.
How he was punished.

A Snowball Fight.

The Story of the Pilgrims.

Eighteenth Week.

Model composition—description.

Eopical outline deduced from model.

Topical outline constructed from new material for written work.

Oral composition from new material.

Written original composition.

Reading and correction.

Written original social letter—narrative.

Reading and correction.

Drill on correct use of the personal pronoun. Review.

Suggested topics for description:

THE QUAKERS.

The Quakers were a religious sect living in England. They were hated and treated unkindly there and a great many came to America under their leader and helper, William Penn.

In dress, the Quakers were very plain and sedate. They said "thee" and "thou" instead of "you" and refused to take off their hats to any living person. They thought that respect and reverence was due to God alone.

Notwithstanding their peculiarities they had some ideas that we respect and might to our credit carry out. They believed that war was unnecessary. They thought swearing a great evil and would refrain from it even in case of a treaty or lawsuit of any kind.

Topical Outline.

THE QUAKERS.

I. Where they originated.
Who they were.

II. Their habits and customs.
Dress.

Speech.

III. Ideas we admire.
Concerning war.
Concerning swearing.

A Day at the Seashore.

A Fruit Stand.

Nineteenth Week.

Review.

Work in invention.

Topical outline constructed for original work.

Oral composition from new material.

Written original composition.

Reading and correction.

Drill on the correct use of preparations learned. Review in, into, between and among, like and as.

Suggested topics for invention:

How Our School Celebrated Thanksgiving Day.

Life History of a Piece of Paper.

THE FOOLISH LEAP.

Many years ago there lived a small boy with his father by the sea. This boy rowed up and down near the shore in his little canoe.

One day he became careless and while seeing his boat not far away from the shore, he thought that he would be able to jump into it. He calculated wrongly. While leaping, he recoiled and was

thrown into the sea. He screamed for help.

His father, who was not far off, heard the screams and came to the rescue. He was surprised to find that it was his own little boy. He jumped in and brought him safely to the shore. His father said that he hoped it would prove a lesson to him to be more careful.

Topical Outline.

THE FOOLISH LEAP.

I. Introduction.
   The boy and the father.
   Canoe.

II. The accident.
   (a) Boat near shore.
   (b) The leap.
   (c) Result.

III. The rescue.
   The father save his boy.
   The lesson.

Vacation in the Country.

Twentieth Week.

Review.

Work—business letters.

Topical outline constructed from new material for original letter—ordering goods.

Oral composition from new material.

Written original business letter—Reading and correction.

Written original business letter—acknowledging receipt of goods.

Reading and correction.

5B SPELLING.

By Sarah C. Parker.

First Week.

continent
inhabited
indolence
selections
nations
orderly
modern
bravery
poems
rescue
finally
warrior
faithful
opposed
desire
giants
tales
strength
whispering
nymphs
prey
trial
yonder
whether
huge
savage
Mediterranean
brilliant
civilization
justice
siege
capture
through
fierce
marvelous
century
oars
alders
unjust
laurels
creature
mortal
comrade
wilderness
wandering
neighboring
destined
ideals
heroes
enticed
legends
famous
crafty
adventures
forgetfulness
crew
ancient
nobility
harbor
hauled
priest
precious
wondrous
refrain
pouch

Second Week.

skillful
shepherd
cheese
pasture
depart
sundry
due
verily
stature
secret
shoulder
vast
bundle
entrance
lives
morsel
questioned
monster
pierce
divide
central
highland
agricultural
industry
perish
miserably
grief
seizing
olive
purpose

groups
Atlantic
Appalachian
separated
productive
curdled
pirates
hospitality
rewards
punishes
guests
craftily
jutting
escaped
devour
draughts
ill-fortune
staff

fathom
length
duly
cruelly
rare
liquor
thrice
courage
deliver
western
includes
section
surface
thrust
a=without
ab=away
able=fit

Third Week.

midst
eyebrow
timber
temper
beguile
perchance
escape
device
fleece
lurking
lament
betray
accursed
anger
extend
ridges
natural
system
quarrying
persuade
oracles
prophet
subdue
grievous
consent
sacrifice
succeed

contrary
native
weary
through
picturesque
boundary
forests
mining
helm
envoy
honor
empty
tumult
ruled
palace
counsel
launched
enchantment
spear
sword
antlers
fragments
porch
several
scenery
plateau
lumbering

obstacles
journey
course
implore

loom
haste
honey
bristles
acorns
necessary
necessity
resist
herb
marvel
deceit
unawares
oath
coverlet
caldron
marble
petroleum
coastal
temperature
swampy
weariness
wheaten
perceive
dumb
shadowy
reduce
voyage
mariner
miserably
oxen
magic
jerilous

quarries
ac or ad=to, toward
age=that which

Fourth Week.

greedy
property
recognized
slate
foreign
climate
abundant
fertile
alt—belonging to
possession
literature
wiles
average
sagacious
crest
haughty
suitor
spacious
aspect
within
auburn
loathe
lustrous
squalid
sandstone
location
resources
rainfall
turpentine
alt=belonging to
ex=out

---

wretch
loyal
discreet
pasturage
nourish
domain
sherbet

corpses
ell
battlements
anoint
champion
suspicion
phantom

glorious
garb
throng
sacred
minstrel
recital
dragon
drainage
Massachusetts
hospitals
ferries
Algonquins
trans—across
tri—three
centaur
conquer
false
false
evil
suspicion
protest
polish
shield
reflection
sandals
received
invisible
equipped
tar
sluggish
Virginia
population
magazines
interborough
Iroquois
sever
pursuit
accord
desert
league
shingle
skeleton
strewn
poisonous
asps
adders
breed
rosin

herald
warily
inquiry
remonstrances
Louisiana
refineries
wharves
Roger Williams
ten-thousandths
increase
sentence
interrogative
furniture
peni=almost
auto=self
ion=that which
stripling
ponderous
chanting
illustrious
assuming
transformation
burnished
visage
disconsolate
quoth
exploit
delta
canvas
New Orleans
Providence
decrease
important
declarative
exclamatory
implements
prodigious
subsided
immersed
posterity
volume
suppliance
trophies
signet
monarch
breathed
shriek
alphabet

naval
fertilizers
tobacco
museums
transportation
Indians
settlement
pillars
wreaths
calm
waste
thirst
hunger
tongue
fancy
vanish
naught
drought
prosper
elevation
cultivation
ranching
Mississippi
adventure
England
freedom
debtor
prevail
silence
streamlet
turf
oasis
eagle
obelisks
pyramids
millet
renowned
gourds
ivory
hinder
levees
molasses
minerals
cotton
Plymouth
industrious
worship
creditor

metropolis
Rhode Island
decimal
diminish
rapids
imperative
mountainous
varieties
vein
calmly
reindeer
mortified
courteously
diminished
prowess
resolutely
venomous
somber
prairie
hundred-thousandths
profitably
mainly
summits
practically
immense
condition
valuable
ish=make
anguish
tournaments
gesture
sympathize
prophetess
eagerly
fierce
leisurely
valiantly
barley
equally
famous
regular
traversed
recent
navigable
amount
shallowness
indentation
deceit

statue
barbarians
shrank
bosom
indignation
falcon
cymbals
musician
traitor
carcass
appease
diadem
fibre
grazing
commercial
Jamestown
Pilgrims
religions
nationality
items
hemi or semi=half

capable
assigned
quell
congratulate
perpetual
sagacity
uncouth
swarthy
averted
subject
predicate
complement
consist
severe
undergrowth
inlets
discharge
oyster
phosphate
et=little

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crimson
chariot
plaintive
surpliced
ruth
balms
marauders
ascended
hurricane
Illinois
Chicago
millionths
noun
pronoun
machinery
fertilizer
considerable
destruction
cultivation
modern
en=two or more
stagnant
taunt
desolate
covetously

grease
valiant
treachery
hawthorn
honorable
deny
Rocky Mts.
quicksilver
adjective
quartz
shafts
tunnels
miners
hoisted
pestle
dissolve
absorb
timber
not=move
numer=number
fy=to make
harness
yield
piteously
coward

sheath
breadth
fatal
knowledge
feigned
slaughtering
singular
appearance
resemble
diameter
fuel
evaporate
syrup
vegetables
negroes
scarce
wrought
reconcile
vengeance
adversary
inheritance
strait
defect
hostile
memorial
merchandise
plural
occasional
herd
extensive
zinc
prairie
attracted
piling
boulders
abandon
reverence
archbishop
damsel
barge
scabbard
disguised
advice
prowess
homage
Minnesota
triangle
rectangle

pavilion
service
pardon
dangerous
canyons
comparative
shingle
prevent
favorable
insect
injury
excel
excellent
wolves
railway
locality
conditions
sycamore
vanquish
loyalty
lineage
errand
generously
solemnity
irrigation
circumstances
project
poultry
supply
directly
equipped
textiles
calico
shipment
saddles
courteously
knighthood
courteously
chivalrous
reigned
reveal
adversary
perceived
favorite
Colorado
per cent
percentage
adverb

verb
canals
route
annual
laboriously
formerly
accomplished
assistant
teen=ten
vacant
courtly
purity
self-sacrifice
conspire
turmoil
survive
commandment
organ
porous
request
sustenance
maturity
separate
agent
cattle
destitute
cedar
hemlock
materials
porcelain
facilities
harmony
eternal
weight
dais
sufficient
warrant
esteem
oppress
foe
ridge
width
comprise
islets
lava
interior
determining

associations
furnace
convey
kerosene
naphtha
gasolene
worsted
central
post—carry—bring
pose—to place put
languidly
compete
scarlet
courageous
buoy
plague
brigade
pagan
Denver
juniper
exhausted
dairy
occur
capital
numerous
shovels
lofty
scenery
visitors
employment
wily
emperor
covenant
homage
treason
assemble
marvelous
sigh
extracting
engine
enlarge
resemble
accompanied
thermometer
formerly
laborers
utilize

vineyard
orchard
artificially
potatoes
shelter
territory
owe

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stirrup
resolute
intelligence
advance
motionless
descended
impatience
quantity
impression
nostrils
California
telegraph
their
horizon
prowess
reality
encircles
foundations
encircle
sympathize
scrib—write
serv—keep
disheveled
instantly
liberated
rescue
offense
forcibly
authority
violent
positively
gratitude
San Francisco
somber
defile
prophecy
preparation
thoughtfully
bridle
honorable
erect
peaceably
anvil
permission
interval
triumphantly
riveted
congratulate
failure
council
noiseless
brethren
established
mischief
guilty
servant
governor
gracious
roughly
famished
diease
accomplished
innumerable
remnant
libraries
situation
wholesale
retail
industrious
thrifty
responsible
merciless
vapors
ghosts
realm
challenge
derision
bison
melancholy
trophy
signal
constancy

circle	opposite
converted	defiance
endeavor	desolate
restrain	accommodate
malice	autumn
surround	complete
conclude	valiantly
distinctly	signal
perplexity	averted
calamity	tribute
permission	resentment
telephone	antelope
furious	moccasins
envy	bruised
tremulous	boughs
presence	abysses
impatient	mortification
gesture	valuable
compliment	ammunition
uncertain	current
assigned	exultation
exclaimed	grenadiers
difficult	aghast
occasion	impartially
impatience	obvious
rejoiced	eclipse
answered	challenge
condensed	fortress
extraordinary	wield
enormous	chariot
diamonds	innumerable
business	convenient
reference	situation
application	security
position	exquisite
excuse	anxiety
event	pursuers
rapidity	raisins
placid	cruise
cable	anchor
telegraphy	cypress
transport	sentinel
fatigued	firmament
disobeyed	vehicle
consequence	sleigh
obstinate	interruption
merriment	plaintive
muscles	knight
extremely	opinion
famine	satisfy

5B MEMORY SELECTIONS.

By Sarah C. Parker.

First Week.

ALADDIN.

When I was a beggarly boy,
  And lived in a cellar damp,
I had not a friend nor a toy,
  But I had Aladdin's lamp;
  When I could not sleep for the cold
  I had fire enough in my brain,
And builded with roofs of gold
  My beautiful castles in Spain!

Second Week.

ALADDIN continued.

Since then I have toiled day and night,
  I had money and power good store,
But I'd give all my lamps of silver bright
  For the one that is mine no more;
  Take Fortune, whatever you choose,
  You gave, and may snatch again,
I have nothing 'twould pain me to lose,
  For I own no more castles in Spain!

—*James Russell Lowell*

Every right action and true thought sets the seal of its beauty on person and farce.—*John Ruskin.*

Third Week.

THE TWENTY-THIRD PSALM.

Fourth Week.

MORNING.

Hark, hark! the lark at heaven's gate sings,
  And Phoebus 'gins arise,
His steeds to water at those springs
  On chaliced flowers that lies;
And winking Mary buds begin
  To ope their gold eyes;
With everything that pretty bin,
  My lady sweet, arise;
    Arise, arise.

—*William Shakspere.*

A man should never be ashamed to own he has been in the wrong, which is but saying in other words, that he is wiser to-day than he was yesterday.

—*Pope.*

Fifth Week.

Nothing is to be attained without striving. In a determined effort to settle the thoughts, to parcel out the day, to find occupation regularly or to make it, to be up and doing something, are chiefly to be found the mere mechanical means which must come to the aid of the best mental effort.—*Charles Dickens.*

Sixth Week.

Let no man turn aside, ever so slightly, from the broad path of honor, on the plausible pretence that he is justified by the goodness of his end. All good ends can be worked out by good means. Those that cannot are bad; and may be counted so at once, and left alone.—*Charles Dickens.*

Seventh Week.

TO-DAY.

So here hath been dawning
Another blue day;
Think, wilt thou let it
Slip useless away?

Out of eternity
This new day is born;
Into eternity,
At night, will return.

Behold it aforetime,
No eye ever did;
So soon it forever
From all eyes is hid.

Here hath been dawning
Another blue day;
Think wilt thou let it
Slip useless away?

—*Thomas Carlyle.*

Eighth Week.

THE ONE HUNDREDTH PSALM.

Ninth Week.

REVIEW.

Tenth Week.

BARBARA FRIETCHIE.

By John Greenleaf Whittier.

Up from the meadows rich with corn,
Clear in the cool September morn,

The clustered spires of Frederick stand,
Green-walled by the hills of Maryland.

Round about them orchard sweep,
Apple and peach tree fruited deep.

Fair as the garden of the Lord
To the eyes of the famished rebel horde.

On that pleasant morn of the early Fall
When Lee marched over the mountain wall,

Over the mountains winding down,
Horse and foot, into Frederick town.

Eleventh Week.

Forty flags with their silver stars,
Forty flags with their crimson bars,

Flapped in the morning wind; the sun
Of noon looked down, and saw not one.

Up rose old Barbara Frietchie then,
Bowed with her forescore years and ten;

Bravest of all in Frederick town,
She took up the flag the men hauled down;

In her attic window the staff she set
To show that one heart was loyal yet.

Twelfth Week.

Up the street came the rebel tread,
Stonewall Jackson riding ahead.

Under his slouch hat left and right
He glanced: the old flag met his sight.

"Halt!" the dust-brown ranks stood fast.
"Fire!" out blazed the rifle blast.

It shivered the window pane and sash;
It rent the banner with seam and gash.

Quick as it fell, from the broken staff
Dame Barbara snatched the silken scarf.

She leaned far out on the window-sill,
And shook it forth with a royal will.

Thirteenth Week.

"Shoot, if you must, this old grey head,
But spare your country's flag," she said.

A shade of sadness, a blush of shame
Over the face of the leader came.

The nobler nature within him stirred
To life at that woman's deed and word:

"Who touches a hair of yon gray head
Dies like a dog! March on!" he said.

Fourteenth Week.

All day long through Frederick street
Sounded the tread of marching feet.

All day long that free flag tost
Over the heads of the rebel host.

Even its torn folds rose and fell
On the loyal winds that loved it well;

And through the hill-gaps sunset light
Shone over it with a warm good-night.

Barbara Frietchie's work is o'er,
And the rebel rides on his raids no more.

Fifteenth Week.

Honor to her! and let a tear
Fall for her sake on Stonewall's bier.

Over Barbara Frietchie's grave
Flag of freedom and Union wave!

Peace and order and beauty draw
Round thy symbol of life and law.

And ever the stars above look down
On thy stars below in Frederick Town!

NOTE.—Let the reading of complete poem follow immediately every day's fragmentary recitation, so that the whole may be a unit in pupils' minds.

Sixteenth Week.

REVIEW BARBARA FRIETCHIE.

Seventeenth Week.

The greatest man is he who chooses the right with invincible resolution; who resists the sorest temptations from within and without; who bears the heaviest burdens cheerfully; who is the calmest in storms, and whose reliance on truth, on virtue, on God is the most unfaltering.

—*Channing.*

Eigteenth Week.

Scorn not the highest word or deed,
Nor deem it void of power;
There's fruit in each wind wafted seed
That waits its natal hour.
No act falls fruitless; none can tell
How vast its power may be,
Nor what results enfolded dwell
Within it silently.

—*Samuel Taylor Coleridge.*

Nineteenth Week.

Employ thy time well, if thou meanest to gain leisure; and since thou art not sure of a minute, throw not away an hour. Leisure is time for doing something useful; this leisure the diligent man will obtain, but the lazy man never; for a life of leisure and a life of laziness are two things.—*Franklin.*

Twentieth Week.

No laurel decks the brow,
No trump of fame
Sounds to posterity
His humble name.
But truly great the man,
A conqueror he,
Who over self obtains
The mastery.

5B HISTORY.

By Alida B. Brennan.

TWO LESSONS A WEEK.

First Week.

I. REVIEW.—Review land claimed by England, France, Spain, at close of period of exploration and discovery.

England claimed all land along Atlantic coast from Canada to Florida. She based her claim upon the explorations of John Cabot and his son Sebastian.

France claimed all land along St. Lawrence and all of Canada.

Spain claimed Florida and Mexico.

II. RALEIGH'S ATTEMPT TO SETTLE ROANOKE ISLAND.

Spain had made one settlement on her land at St. Augustine, Florida, 1565. No other country had attempted to make any settlement up to this time. Finally Sir Walter Raleigh, a wealthy Englishman, attempted to make a settlement on Roanoke Island, lying off the eastern coast of Virginia. Raleigh's idea was to make America a second home for the English nation. Queen Elizabeth became interested in his plan and gave her consent. The name Virginia was given to the land that the English claimed. Raleigh sent over two colonies but they both failed. Reading from *Tappan* pp. 24-33.

Second Week.

JAMESTOWN, 1607.

First permanent English settlement was made at Jamestown, Virginia, in 1607.

PRELIMINARY WORK.

Two companies were formed in England for purpose of sending colonists to America. They were the London Company and the Plymouth Company.

The *London Company* was given all land between Nova Scotia and Long Island. The *Plymouth Company* received land between Florida and Potomac river. The land between Potomac river and Long Island was left open to both companies for settlement. These grants all extended as far west as was then known of America.

Cause of Emigration.

In 1607 the London Company sent out a colony of about one hundred men. They landed on the coast of the present state of Virginia. Sailed up a river which they called the James, in honor of the king. Along the bank of this river they chose a spot for their settlement. From the very first the colony was a failure. The men who came were not the right kind of men to make a home in a new country. They came with one idea only to *search for gold.* They did not wish to build permanent homes. Their object was to become rich enough to return to England.

Character of Settlers.

The men, besides all this, were unskilled. Many of them were rich gentlemen, who had lost their fortunes. Most of them could do no hard work of any kind. They were lazy and idle and refused to work.

Climate and Physical Features.

Added to this the colonists had chosen

a very poor location for their settlement. The land was damp and marshy. The air was unhealthy. The water not fit to drink. The summer was very hot. This caused much sickness and death.

Prominent Man of Colony.

The colony would have failed at once had it not been for the work of Captain John Smith. He took hold of colony, and compelled the men to work. Those who refused to work were given no food. Smith had the land cleared and comfortable huts were soon put up. All food produced was put into the common storehouse and divided equally among the workers. He also made friends with some Indian tribes and obtained food from them in times of need.

Starving Time in Jamestown.

After three years, when the colony had been put into a good condition, Smith was obliged to return to England. After his departure, the colonists once more fell back into their lazy ways and during the winter suffered greatly. Many died. This was known as the "Starving Time". The colonists were on the point of leaving when several ships appeared in the harbor, bringing more settlers and new provisions. A new governor was among the colonists.

Tobacco in Jamestown.

The new governor was much of the same kind of man as Smith had been. He managed the colony in the same strict manner. He, however, made a change in the colony. He gave each man a small piece of land. The colony had begun to raise tobacco and as each man was now working for himself the colony began to prosper.

Important Events.

In 1619 two important events took place.

1. Slavery was introduced into America.

2. The first law-making body met in America.

The slaves were brought to Virginia by a Dutch ship. These slaves had been kidnapped in Africa. They found a quick sale in Virginia and many more were brought.

In England the people had had the right of voting on laws which were to be made. They claimed the same right in America. The colony had been ruled by a governor sent by the London Company. The colony did not object to this, but they thought that they should have some voice in making the laws. The settlement was finally divided into boroughs. Each borough sent two representatives in an assembly. This assembly was called the "House of Burgesses." (Tappan, pp. 42-51.)

Jamestown to-day—a ruin—reasons.

Third Week.

PLYMOUTH, 1620.

PRELIMINARY WORK.

Tell story of Puritans—home in England—persecution by the king—home in Holland—determination to leave Holland for America, called Pilgrims now—reasons for this.

Cause of Emigration to America.

The Pilgrims, having been persecuted in England and finding Holland unsuitable, came to America. Their reason for coming to America was different from that which brought Jamestown settlers. The Pilgrims came for religious freedom.

Fourth Week.

ARRIVAL OF PILGRIMS IN AMERICA.

The Puritans sailed from England in the small boat, Mayflower, and reached the coast of Massachusetts. A number of men left the boat and went ashore to find a suitable place for building their homes.

Character of Settlers.

The Puritans were brave, pious men, not afraid to work. Before landing they all gathered in the cabin of the Mayflower and made a compact which they all signed and promised to obey.

First Winter.

The Pilgrims landed in November and their first winter was a very severe trial. Many suffered from cold and many died of sickness and starvation. Yet when spring came none would return. They had come to America to find a home.

Prominent Men.

William Bradford, the second governor, and Miles Standish helped the colony greatly. Standish cared for the sick. He fought against the unfriendly Indians.

William Bradford was made the second governor, the first governor John Carver, having died. Bradford remained governor for nearly thirty years and was respected by the entire colony. He made a treaty with an Indian chief Massasoit, which was kept for nearly fifty years.

First Thanksgiving Day.

The Puritans did not waste their time searching for gold. They at once cleared the ground and began planting corn which the friendly Indians had given them. When the first autumn came the crops were plentiful. The colony was beginning to prosper. The Puritans were so happy that they decided to hold a feast of "Thanksgiving". This was our first *thanksgiving day.* (Tappan, pp. 52.60.)

For colonial manners and customs read Tappan, pages 83-88.

Comparison of Jamestown Settlers with those of Plymouth.

JAMESTOWN	PLYMOUTH
Came to search for gold.	Came for religious freedom.
Idle, lazy men.	Hard workers.
Came to get rich and then return to England.	Came to make permanent homes and remain here.

Fifth Week.

SETTLEMENT OF SALEM.

PRELIMINARY WORK.

When the Pilgrims left for America there were still a large number of Puritans in England. The king still continued persecutions against them. Among these Puritans were a number of wealthy men. These men formed the Massachusetts Bay Co. and purchased the land from the Plymouth.

Cause of Emigration.

The first of this body of men came to America under the leadership of John Endicott. They came here for the purpose of worshipping God as they chose. Settled at Salem in Mass.

Character of Settlers.

These settlers were of the same religious sect as the Pilgrims and possessed the same sterling qualities.

Salem Witchcraft.

After Salem had been founded for many years, a peculiar thing happened. This was the belief in witches. This belief originated in England and spread to America. Several children when reproved for their foolish actions said that certain old women had bewitched them. The old women were tried and killed. Many people lost their life in this manner. Finally the good sense of the people asserted itself and the strange custom ceased.

Sixth Week.

BOSTON, 1630.

The great emigration of Puritans did not begin until 1630. Then the Puritans who were still in England decided to come to America and join those of Salem and Plymouth.

This emigration was a great removal. These people took all their household goods, horses, cattle, and all things needed for a settlement. It required eleven vessels to bring them all to Amer-

ica. Among the Puritans were some of the officers of the Massachusetts Bay Company. One of these was John Winthrop. It was he who brought these settlers to America. They selected a spot for a settlement and called their settlement Boston.

In spite of their careful preparations the settlement suffered severely the first winter. Gov. Winthrop was finally obliged to send to Plymouth for aid and provisions. During the next ten years more than 20,000 people came to Boston.

Union of Salem and Boston.

When Boston was fairly established, Salem and Boston were joined under the name of the Massachusetts Bay Colony. Governor Winthrop was made governor of both colonies when joined.

Seventh Week.

RHODE ISLAND AND CONNECTICUT.

While the Puritans were indignant when the king would not allow them religious freedom, they learned no lesson from it. They in their own colonies were just as intolerant towards those people who did not believe as they did.

Prominent Man.

In Massachusetts at this time there was a man who did not believe just as the Puritans did. He was Roger Williams. He disagreed with many teachings of the Puritans. This the Puritans would not endure. They banished Roger Williams. He left and bought land from a tribe of Indians. He established his colony on what is now called Rhode Island. He allowed people of any religious belief to settle in Rhode Island. It soon became a large, flourishing settlement.

About the same time Connecticut was settled by Thomas Hooker. He had a large body of settlers from Massachusetts. In Massachusetts at this time no one was allowed to vote at the town meetings, but members of the Puritan church. It was for this reason that so many settlers left Massachusetts at this time for Connecticut. They settled on Connecticut River and called their colony Hartford.

NEW ENGLAND CONFEDERATION, 1643.

Nearly all of these settlers were troubled at times by unfriendly Indian tribes. These attacks grew more frequent and finally, in 1643, the governors of the different settlements arranged a union of the colonies. The colonies promised to help each other in time of an attack from Indians. They promised to send help and provisions to each other. This prepared the colonies for the terrible Indian wars later.

Eighth and Ninth Weeks.

NEW AMSTERDAM, 1623.

1. When Henry Hudson discovered the Hudson river our present city of New York was an Indian village. He returned to Holland with an account of the furs which the Indians had to trade.

2. This induced many Dutch people to come here for the purpose of trading with the Indians. The first of these early traders was Adrian Block. He established the first white settlement of any kind on Manhattan Island. So the Indian village became a Dutch free trading post, and this fur post was the beginning of New York City.

3. More people came and finally there were enough here to require a governor. The Dutch West India Co. owned the land and sent over Peter Minuit. He bought the island of Manhattan from the Indians for feathers, beads, and trinkets, to the amount of twenty-four dollars. The name New Amtserdam was now given to the trading post and the date 1623 is connected with this event.

The people who came to New Amsterdam came mainly for the purpose of fur-trading, make a fortune and then return to Europe. The Company soon saw that these people would not make a very lasting settlement. So they passed an order that no person, except an agent of the company, might trade with the Indians. They formed a plan, however, of bringing settlers to New Amsterdam.

Patroon System.

They introduced what was called the patroon system. They offered to give sixteen miles of the Hudson shore to any man who would bring fifty settlers to America. The owner of this land was called a patroon. He was obliged to pay the passage of his colonists and to provide cattle and tools. He was also obliged to clear the land and build houses and barns. In return the settlers were obliged to pay as rent to the Patroon part of each crop. They had to agree to remain on his land for ten years. The Patroon was sole owner and ruler. He could make all laws, in fact was allowed every privilege except that of trading in furs. This right the company reserved for itself.

Prominent Man.

The Company still sent over the governors. The last of these governors was Peter Stuyvesant. He was a very strict man and was not liked by the colonists. But he did a great deal of good for New Amsterdam. He laid out streets, introduced a fire department and established the first public school in the colony.

New Amsterdam becomes New York, 1664.

The English had always claimed that the Dutch were trespassing on their claim. They claimed all this land because of the work of John Cabot. They had threatened several times to take the Dutch city. The Dutch paid no attention to these threats. Finally, in 1664, several English warships appeared in the harbor and demanded the surrender of the city. Peter Stuyvesant refused, but his people did not support him. They considered him too harsh, and were willing enough to go under the English rule. So New Amsterdam was surrendered without much fighting.

Short talk on historic spots in New York.

Bowling Green,—formerly the playground of Dutch people and children.

Bowery,—formerly the Dutch lane called bowerie. Peter Stuyvesant had his country home on this lane.

Wall Street,—site of the old wall built by Dutch as a protection against English and Indians.

Ann Street, named for wife of one of the Dutch officials.

Whitehall Street.—This street received its name from Stuyvesant's home called the White Hall.

Tenth Week.

PENNSYLVANIA, PHILADELPHIA, 1682.

Besides the Puritans, there were two other religious sects who disagreed with the church of England. These were the Quakers and Catholics.

The Quakers had a good leader in William Penn who became a Quaker on entering an English College. These people, like the Puritans, were persecuted by the officers of the king, and like them desired a place where they might worship God as they chose.

William Penn was a wealthy man and a friend of the king. He received permission to come to America and bring the Quakers with him. He purchased land from the Indians and called it Pennsylvania. He founded the beginning of Philadelphia in 1682. The Indians always treated the Quakers kindly, be-

cause of the treaty Penn had made when he purchased the land.

Eleventh Week.

MARYLAND. BALTIMORE.

In the same manner as Pennsylvania, Maryland was settled by the Catholics under the leadership of Lord Baltimore, himself a Catholic. He was given a tract of land north of Virginia, which he called Maryland, in honor of the queen of England at that time. Lord Baltimore was given full power to rule in his colony. This colony soon became the refuge for all persecuted people, for Maryland was the first colony to open its doors to people of any faith. The people began the culture of tobacco and the land was divided into large plantations.

After the colony had been established many years a rebellion broke out, headed by a man named Clay, who became dissatisfied with the actions of the governor. This was soon quieted and the descendants of Lord Baltimore held the colony until the Revolutionary War.

Twelfth Week.

KING PHILIP'S WAR.

1. Indian tribes encountered by the colonists.—Algonquins and Iroquois.

The Algonquins were friendly to the English while the Iroquois hated the French. These Indian tribes troubled the settlers at various times. Many years before, a treaty had been made by the Puritans with the Indian chief Massasoit of the Algonquins. This treaty Massasoit faithfully kept. Massasoit had a son Philip, who hated the English. When Massasoit died, Philip stirred up his tribe to make war on the whites. Thus began the long and terrible Indian War. Many towns were burned and hundreds of white settlers killed and scalped. The colonists fought bravely and finally King Philip was captured and killed. This ended the terrible series of wars.

Thirteenth Week.

FRENCH EXPLORATIONS.

The French had been busy all this time exploring their claim and building forts to hold their possessions.

Champlain had discovered Lake Champlain and in 1608 had established the city of Quebec on the St. Lawrence.

In 1673 Marquette, another French explorer, sailed down the Mississippi from the Great Lakes for a long distance, down the river. He did not reach the mouth.

In 1682 La Salle undertook the same journey and succeeded in reaching the Gulf of Mexico. France claimed all the land along the Mississippi because of this.

Fourteenth Week.

REVIEW OF COLONIES.

Make chart with these column headings: COLONY, BY WHOM SETTLED, DATE, CAUSE OF SETTLEMENT, PROMINENT MAN, PRESENT CITY AND STATE.

Fifteenth Week.

EARLY FRENCH-INDIAN WARS, 1689—1748.

Cause.—Trouble between England and France (mother countries), taken up by the colonists in America.

England and France were at war at this time and each war in Europe would be followed by trouble between the French and English colonies who took up the quarrel here in America.

During one of these encounters France lost Louisberg, a great stronghold at the entrance to St. Lawrence. During another of these outbreaks England captured *Acadia* and called it *Nova Scotia.*

Sixteenth Week.

LAST GREAT FRENCH AND INDIAN WAR.

PRELIMINARY WORK.

When they explored a region, the French immediately built forts there to hold it. In this manner they had built forts all along the St. Lawrence and the Mississippi rivers. The English awoke to the fact that the French were gradually hemming them in along the eastern coast. They could not move north, and the Appalachian mountains held them back at the west. The only opening left them in case they wished to colonize the land west was the Ohio river, or the place where the Monongahela and Allegheny rivers unite to form the Ohio. This spot was called the "Gateway of the West". Both France and England saw that whatever country held this spot controlled the western lands.

A land company was formed in Virginia for the purpose of settling along the Ohio. The French learned of this and at once established forts there. Governor Dinwiddie sent young George Washington to the French commander of these forts to tell him that the French were trespassing on English territory. The English claimed that they had purchased this land from the Iroquois Indians years before. The French commander listened to Washington, but replied that if the English wished to hold the land they must hold it by force.

Seventeenth Week.

The London company took this advice and sent Washington to build forts along the Ohio. At the junction of the Ohio river Washington started a fort. Before he had finished it the French drove the English out, finished the fort and called it Fort Du Quesne. Washington started another for about 40 miles south, but again was driven out by the French.

Convention at Albany, 1754.

The English colonies saw that matters were getting serious and that the French were determined to hold the Ohio river. So in 1754 they called a convention at Albany. All the colonies were asked to send delegates. Benjamin Franklin came from Pennsylvania. The purpose of this convention was to decide what the colonies should do in regard to the action of the French. Franklin advised the colonies to band together for protection against the French. The English government would not hear of this, but promised to send aid to the colonies.

Nineteenth Week.

BATTLE OF FORT DU QUESNE.

The next year, 1755, England as she had promised sent over a regiment of English troops under General Braddock. Washington was to be sent with him to drive the French from Fort Du Quesne. Washington told General Braddock of the French and Indian method of fighting (getting behind trees, etc.), and advised him to do likewise. Braddock refused to listen but insisted on marching his troops in regular rank and file toward the fort. When they reached the fort they were fired upon by the hidden enemy. The English soldiers were panic-stricken and fled. They were shot as they fled. Braddock himself was wounded and died. Washington collected the remnant of the scattered regiment and by his skill and courage lead them safely back to Virginia.

EXPULSION OF THE ACADIANS FROM NOVA SCOTIA.

The English had several years before taken Acadia or Nova Scotia from the French. The English found out that these French peasants in Nova Scotia were secretly helping the French. Ac-

cordingly the English sent a regiment to Nova Scotia and drove the Acadians into exile. They were taken unawares and driven down to the shore. Here they were put upon English war vessels and scattered through the colonies. Many were taken as far south as Georgia. Families were broken up and some never met again. This was looked upon as an inhuman act. Recently, however, it has been proven that these Acadians refused to take the oath of allegiance to England and that some of the sons were really fighting against the English. England claimed that she was justified in her act.

Nineteenth Week.

The same year the English colonists took Fort Du Quesne. The Prime Minister of England at this time was William Pitt. He was a good friend to the colonies. He sent over more soldiers and with the help of these and Washington the fort was taken by the English. The name was changed to Fort Pitt in honor of the great statesman. To-day we call the place Pittsburg.

The French had built a fort, Fort Niagara, on the Niagara river in New York state. While they held this fort New York state was always in danger. *Sir William Johnson* of New York was very friendly with the Iroquois tribe. With a band of these he took the fort and drove out the French.

BATTLE OF QUEBEC, 1759.

France had lost many of her forts along the St. Lawrence, but she still held the strongest of all, Quebec. While she held this she could still be mistress of Canada and could threaten the colonies. The English had made many attempts to take this stronghold. It was situated high up on a steep bluff on the St. Lawrence. It was considered the strongest fortress in the world.

Montcalm, a noted French general, held the fort. General Wolfe, the English leader, made a final attempt to take it from him. The English discovered a hidden pass leading up to the top, and surprised the French by appearing one morning, ready for battle, before the fort. The struggle was a terrible one. Both leaders were killed. The English were victorious and Quebec surrendered.

This practically ended the war.

Twentieth Week.

TREATY OF PARIS, 1763.

In 1763 a treaty of peace was made between England and France.

Terms of Treaty.

1. French king gave up all claims to America.

2. England received Florida from Spain. (Spain had taken sides with France during the war and as a result was obliged to give up Spain to the English.)

(Use map to show English possessions and thirteen original colonies.)

Good Results of War.

1. United the colonies.
2. Trained thousands of men to fight.
3. Showed colonies how to face a strong enemy.
4. Made them less dependent upon England for protection, by removing their enemy, the French.

5B CIVICS.

By Mary J. Montgomery.

ONE LESSON A WEEK.

First Week.

DEPARTMENT OF CHARITIES. (What the city does.) Commissioner.

I. Hospitals and their purposes.

Some of the hospitals of Brooklyn:

St. Peter's, St. Katherine, St. Mary's, Long Island College, The Jewish Hospital.

Second Week.

DEPARTMENT OF CHARITIES (continued). (What the city does.)

II. Care of orphans and destitute children.

Orphan Asylums in Brooklyn:
Hebrew Orphan Asylum;
Brooklyn Howard (colored);
Orphan Asylum (Protestant);
Dominican Home.

Third Week.

DEPARTMENT OF CHARITIES (continued). (What the city does.)

III. Care of the aged and helpless:
Faith Home for Incurables.
Almshouse.
(Old Men's) Home for the Aged.

Fourth Week.

DEPARTMENT OF CHARITIES (continued). (What the city does.)

IV. Care of the blind:
Asylum for the blind;
Method of reading;
Women taught to sew and perform household duties.

Fifth Week.

GOOD CITIZENSHIP. (Duty of the citizen in regard to charity.)

I. Duty of relieving the unfortunate.

Specific examples, such as helping children in school who are crippled or maimed in any way, being careful not to push them and not to be rough with them.

Kindness toward the sick—being quiet where we know someone is sick. Visiting sick playmates.

Sixth Week.

DUTIES OF THE CITIZEN IN REGARD TO CHARITY (continued).

II. Duty of recognizing a personal responsibility to the poor and helpless.

Specific examples: Assisting aged people across car-tracks; boys give seat to aged people in the car.

The poor. Cautious giving of money and clothing to poor in neighborhood.

Seventh Week.

DUTY OF THE CITIZEN IN REGARD TO CHARITY (continued).

III. Duty of preventing cruelty to children and to animals.

Society for the Prevention of Cruelty to Children;

Society for the Prevention of Cruelty to Animals.

Eighth Week.

DUTIES OF THE CITIZEN IN REGARD TO CHARITY (continued).

IV. Duty of being independent and self-supporting.

Not to become a burden on the city.

Determination to become self-supporting as soon as possible and in this way to be all the more able to give a helping hand to those who need it.

Ninth Week.

TENEMENT HOUSE DEPARTMENT.

Chief and the Inspectors.

Topics to be considered:

I. Nature of the statutes relative to the erection and inspection of tenements.

What a tenement is.

Why they need inspection.

Tenth Week.

TENEMENT HOUSE DEPARTMENT.

Topics to be considered:

II. Use and abuse of roofs, yards, and fire escapes.

Access to the roof. There must be no leaky roofs.

All tenements must have a fire-escape.

Eleventh Week.

TENEMENT HOUSE DEPARTMENT.

Topics to be considered:

III. Sanitation, light, ventilation, plumbing, toilet accomodations.

Rooms certain size.

Sufficient air and space.

Ventilating sky-lights.

Sanitary plumbing, open plumbing.

Twelfth Week.

TENEMENT HOUSE DEPARTMENT.

Topics to be considered:

Mutual obligations of landlord and tenant.

Inspectors go around regularly to see that tenants as well as owners obey the law, for the tenant has obligations as well as the landlord.

Thirteenth Week.

GOOD CITIZENSHIP.

Duty of the landlord.

Duty of complying with the laws made for the safety, the health and the comfort of the tenant.

Fourteenth Week.

GOOD CITIZENSHIP.

Duties of the tenant.

a) Duty of respecting the rights of the landlord:

b) Not defacing the property.

c) Keeping the place clean.

d) Not clogging up pipes.

e) Careful of the lighting of matches, etc.

Fifteenth Week.

PARK DEPARTMENT.

Park Commissioner.

I. Parks and playgrounds.

Great beauty—value to the people.

Monuments and statuary.

Places of recreation and play.

Health and pleasure.

Name of some parks: Central, Prospect, the Bronx, Riverside, Morningside.

Sixteenth Week.

PARK DEPARTMENT.

Topic to be considered.

II. The park custodians:

Gardeners and their duty.

Mechanics and their duty.

Policemen and their duty.

Scientists and their duty.

Naturalists and their duty.

Animal caretakers and their duty.

Seventh Week.

GOOD CITIZENSHIP.

Duty of appreciating and protecting park property.

Walking on the grass (observing signs).

Pulling and breaking off the flowers.

Throwing paper or waste material around.

Eighteenth Week.

GOOD CITIZENSHIP.

Duty of having pride in our parks and of visiting them with the right motive to derive benefit both physical and mental from them.

Museums give instruction.

Visiting the animals increases our knowledge of unfamiliar animals.

Splendid opportunity for enjoying God's sunlight and air.

Nineteenth Week.

REVIEW.

I. Department of Charities.
What the city does.

II. Duty of the citizen.

III. Tenement House Department. What the city requires.
IV. Duty of landlord and tenant.

Twentieth Week.

REVIEW.

I. Park Department.
II. Park custodians.
III. Duty of the city.
IV. Duty of the citizen.

6A GRADE TERM PLANS

6A ARITHMETIC.

By Johanna L. Becker.

First Week.

Reduction descending — dry, liquid, linear (unital). Not more than three successive units.

Review and drill on per cent equivalents of business fractions taught in 5B, ½ to 9/10 inclusive.

Finding per cents of numbers.

Short Methods: Multiplying by 10, 100, 1000.

Problems: Reduction descending — areas of rectangles.

Second Week.

Reduction descending — avoirdupois, paper.

Changing any per cent to decimal, and vice versa.

Finding per cents of numbers.

Short Methods: Multiplying by 200, 300, 2000, etc.

Bills: Headings of bills studied; date, name, address of buyer; name, address, business of the maker, term debtor studied and properly used.

Addition, subtraction of fractions.

Finding the cost per hundred; per thousand.

Third Week.

Reduction ascending—tables studied. square and time.

Short Methods: Dividing by 10, 100. 1000, etc.; 20, 30, 40; 2000. Applied in reducing lb. to cwt.; cwt. to T., sec. to min., etc.

Finding per cents of numbers.

Fourth Week.

Reduction ascending — miscellaneous tables (doz., paper.) Areas of rectangles and triangles.

Bills: Study of the form of a bill with 3 or 4 items. Making out bills with from 3 to 6 items.

Finding fractional per cents of numbers.

Fractions: division and multiplication.

Fifth Week.

Fractional and decimal reduction descending.

Fractional per cents changed to decimal and common fractions.

Decimals: addition and subtraction.

Bills: Special attention to heading and form of bill. Term creditor defined and properly used.

Sixth Week.

Fractional and decimal reduction ascending.

Reduction of compound denominate numbers (only 2 successive units) to decimal and per cent part of the next higher denomination.

Seventh Week.

Fractional and decimal reductions ascending and descending.

Finding what % one number is of another.

Bills: Use of business fractions in bills.

Eighth Week.

Addition of denominate numbers—troy weight.

Decimals: multiplication and division. Reducing fractions to decimals and vice versa.

Bills: Making out and receipting bills of from 4 to 6 items. Business fractions to be used.

Finding what per cent one number is of another.

Ninth Week.

Addition of denominate numbers—circular.

Differences in dates (in days for period less than a year).

Finding a number when a % part is given.

Tenth Week.

Multiplication of denominate numbers.

Review and drill on finding % of a number, finding what % one number is of another, and finding number when % part is given.

Eleventh Week.

Cubic measure—finding volumes and number of cords in pile of wood.

Study of a check: what it is; how obtained, how used.

Percentage: same as previous week.

Twelfth Week.

Contents of vessels in gallons.

Subtraction of denominate numbers.

Study of checks with special attention to the parts to be filled in: number, date, name, amount. No correction allowed on a check.

Review and drill on 3 cases taught in percentage,

(a) To find a % part of a number.

(b) To find a number when a % part is given.

(c) To find what % one number is of another.

Thirteenth Week.

Contents of bins in bushels. Have children find greatest common divisor of 17280, 21504. (384).

Difference between dates by yr., mo., da.

Writing of checks.

Fourteenth Week.

Fractional addition and substraction of denominate numbers.

Finding a number when the number plus a per cent part is given.

Paying bills by checks. Making out bills and writing checks for payment.

Fifteenth Week.

Division of denominate numbers.

Finding the number when the number minus a per cent part is given.

Sixteenth Week.

Compound division.

Review of the four cases in percentage.

Bills and checks.

Seventeenth Week.

Review denominate number work, reduction descending, ascending addition, multiplication, subtraction, division.

Eighteenth Week.

Review areas of rectangles, triangles.

Volumes: contents of bins and tanks cords in pile of wood.

Nineteenth Week.

Review four cases of percentage.

Surfaces of rectangular solids—cubes and square prisms.

Twentieth Week.

Problems in denominate numbers.

Problems in percentage.

Types of Examples for First Four weeks.

1. Reduce 1175 mi. 175 rd. 4 yd. to ft.

2. Multiply 85 by 1000; 8.5 by 1000; .85 by 1000.

3. Change 1.15 to a per cent; .6 to a per cent.

4. Change 56% to decimal; .7% to dec. 116% to a dec.

5. Find the cost of 39250 stamped envelopes @ $21 per M.

6. Find the cost of 1875 lb. straw @ 68c. per Cwt.

7. Drill on short methods of dividing by 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 1000, 2000, before taking up reduction ascending in avoirdupois and time tables.

8. Reduce 6425 lb. to Cwt. and tons.

Shorten the process by dividing by 10 as indicated by vertical lines.

2/0)6/4 (25) lb.

---

3 T 4 cwt. 25 lb.

9. Reduce 8942 seconds to h. & .

6/0)895/2

6/0)14/9 (12 sec.)

2 hr. 29 min. 12 sec.

10. Cost of 15605 lb. coal @ $8 per T., reducing directly to T. by dividing by (1) by 1000 and (2) by 2.

2)15.605

7.8025 T.

11. Find 3/8% of $644.

Find (1) 1% of 644 by pointing off 2 places $6.44, and (2) find 3/8 of $6.44.

12. Dubb's, page 135, article 163. Express per cents as common and decimal fractions.

13. Dubb's, page 136. Excellent for drill in finding any % of number.

Types of examples for 5th, 6th, 7th, 8th weeks.

14. Reduce 5/18 sq. mi. to lower denominations.

15. Reduce .0875 yr. to lower denominations.

16. 5 hr. 16 min.=? % of a day?

17. A field is 28.8 rd. long and 30.25 wide; how many acres does it contain?

18. Reduce 5/6 ft. to fraction of a rod.

19. Reduce .75 pt. to decimal part and % of a gal.

20. What % of a voyage of 5943 mi. is 3962 miles.

21. *Dubbs*, page 140, article 165. What % of 260 is 13? etc.

22. Reduce 5 gal. to decimal part of 1 bbl.

23. Reduce 34/35 to decimal part; % part. Dubbs, page 115.

24. A miller keeps 6 qt. out of every 3 bu. that grinds. What % is his toll?

25. Strawberries cost $3.20 a bu. and were sold @ 12½ a qt. What % of the cost is gained?

Type examples for 9th, 10th, 11th, 12th weeks.

What decimal of 1 Ton is 1 Cwt. 77 lb. (short method)?

1.77 Cwt. Divide by 10=.177

" " 2=.0885. Answer.

27. How many days from Apr. 17, to Sept. 6?

28. Bought 24980 ft. of lumber @ $1.25 per hundred, 51375 lath @ $1.60 per M; 17480 lb. hay @ $10.25 a Ton. What was the entire bill?

29. Find the cost of a meadow 52 rd. sq. @ $75 per acre.

30. Add 175 bu. 3 pk. 2 qt.; 15 bu. 2 pk. 6 qt.; 140 bu. 1 pk.; 8 bu. 0 pk. 7 qt.; 89 bu. 3 pk. 5 qt.

31. 37 is 5% of what number? Dubbs, page 143, forty examples for drill.

32. A hunter killed 63 pigeons, which number was 18% of the flock. How many escaped? Dubbs, p. 144.

33. A certain coil of wire contains 280 rd. 4 yd. 1 ft; how much will 15 such coils contain?

34. Dubbs, page 71, article 79, has 20 examples for drill.

35. A marble slab is 54 in. long, 32 in. wide, and 3 in. thick. What is its value @ $6.25 a cu. ft.?

36. A street 1620 ft. long and 50 ft. wide is to be graded to a depth of 2 ft. What will the excavation cost @ $.125 per load (a load is 1 cu. yd.).

37. A pile of wood is 64 ft. long, 8 ft. wide, 9 ft. high. How many cords?

38. Dubbs Arithmetic, page 49-50.

39. A reservoir is 22 ft. long, 14 ft. wide, 6 ft. deep. How many gallons will it hold?

40. From 99 bu. 1 pk. take 5 bu. 1 qt. Dubbs, page 67, Art. 76.

Type examples for 13th, 14th, 15th, 16th weeks.

41. How many bu. in a bin 10 ft. long, 6 in. wide, 8 ft. deep?

42. The battle of Lexington was fought April 19, 1775. Cornwallis surrendered October 19, 1781. What was the length of the Revolution?

43. A boy was born May 4, 1887. His sister is 3 years, 9 months, 24 days older. What is date of her birth? If she were 3 yrs. 9 ms. 24 ds. younger, what would be her date of birth?

44. A man was born Jan. 23, 1840. He lived to be 52 yrs. 5 mo. 6 da. old. Date of his death?

45. 5/9 wk. + 5/27 da. + 5/18 hr. =?

46. 2/3 mile — 25¾ rd. =?

47. Bought a watch for $81 which was 33 1/3 more than its value. Value?

48. Sold a team for $315 which was 16% less than the cost. Cost?

49. What no. + 6.5% of itself equals 90.525?

50. Dubbs Arithmetic, page 147, Art. 167.

51. Eleven loads of corn measured 554 bu. 1 pk. 1 qt. What was the average quantity per load?

52. What per cent of 4 bu. 2 pk. 6 qt. is 1 bu. 5 qt. 1 pt.

53. 8 rd. 4 yd. 2 ft. = ? decimal part of 30 rd. 5 yd. 1 ft.?

Type examples for the 17th, 18th, 19th, 20th weeks.

54. Having $720 in the bank, I drew out $468. What % remained in the bank?

55. If a locomotive goes 2.8 mi. in 4 minutes, how far will it go in 40 minutes?

56. A man bought wheat for $10867 and sold it at a gain of 4½%. What did he receive for it?

57. Find the value of a pile of wood 40 ft. long, 8 ft. wide, 4 ft. 6 in. high @ $5.50 per cord.

58. Find the cost of 96 ft. of pine lumber @ $25 per M. and 1650 laths @ $3 per M.

59. A man walking at the rate of 3 mi. 96 rd. per hour, will walk how far in 3 hours 16 min.?

60. How many spoons each weighing 2 oz. 18 pwt. can be made from 5 lb. 9 oz. 12 pwt. of silver?

61. What % of a 10-acre field is 4 a. 100 sq. rd.?

62. Add: ⅜ wk. + 5/6 hr. + 7/12 minute.

63. A gold chain weighs 384 grains. What is its cost @ $1.15 per pwt.?

64. What % of a lb. avoir. is a pound troy?

65. From a tract of land 15 rd. sq. I sold 65 sq. rd. What was the value of the remainder @ $20 per acre?

66. What must I pay for the laying of a sidewalk 6 rd. long, 5 ft. wide @ 45c a sq. yd.?

67. A box is 14 ft. long, 4 ft. wide, 2 ft. deep. How many sq. ft. on its surface?

6A GEOGRAPHY

By Alice M. Fyfe.

First Week.

CANADA.

LOCATION.

In what part of North America?
What direction from United States?
In what zone?

MAP STUDY.

Location of principal gulfs, bays, islands, peninsulas, capes.

Bay—Hudson.
Gulf—St. Lawrence.
Islands—Newfoundland, Prince Edward, Queen Charlotte, (Vancouver).
Peninsula—Nova Scotia, Labrador.
Capes—Sable, Race, Breton.

SURFACE.

Rocky Mountain highland on west.
Laurentian Plateau on east.
Plain in central part.

Second Week.

DRAINAGE.

Study of principal river systems.

Mackenzie
Sascatchewan
St. Lawrence
Yukon.

Study in connection with each river

Source
Direction of flow
Navigability
Value.

LAKES.

Great Slave Lake
Great Bear Lake
Great Lakes
Winnipeg.
Athabasca

CLIMATE.

Winters long and cold except on Pacific Coast.

Rainfall heavy on west coast, moderate in south and southeast.

RESOURCES.

Forests of southern part.
Cod fisheries in east.
Salmon fisheries in west.
Minerals.
Soil of southern part.

Third Week.

INDUSTRIES AND PROFITS.

Lumbering—pine, spruce, hemlock, cedar.
Trapping fur bearing animals of forest.
Fishing—cod, mackerel, herring, salmon.
Mining—gold, silver, copper, nickel.
Farming—wheat, oats, apples.
Manufacturing—flour, cheese, butter.

EXPORTS—Wood, cheese, wheat, nickel.

IMPORTS—Machinery and manufactured articles.

TRADE ROUTES—St. Lawrence, Great Lakes, and Ottawa River.
Canadian Pacific Railroad.

Fourth Week.

PEOPLE—Nationalities—English, French, Eskimo, Indians.

RELIGION—French—Catholics,
English—Protestants.

GOVERNMENT—Confederation of Provinces.

Head of Government is Governor General appointed by King of England.

New York State?
Sierra Madre on West.

Chief Executive is prime minister chosen by House of Commons.

Legislative Dept.

Senate appointed by Governor General.

House of Commons elected by the people.

CITIES.

Halifax Ottawa
Quebec Toronto
Montreal St. John—New Brunswick.

COMPARISON WITH UNITED STATES.

Surface, Climate, Population, Development.

Fifth Week.

MEXICO.

Brief History. See Tarr & McMurry.

LOCATION—In what part of North America?

What direction from United States?

In this zone?

SIZE as compared with U. S. and with N. Y. state?

Reference-Appendix in Tarr & McMurry.

SURFACE—Mostly a plateau.

Sierra Madre on West.

Coast plain on east, swampy in places.

Volcanic Peaks—Orizaba, Popocatapeti.

CLIMATE—Lowlands hot and unhealthful.

Plateau—temperate.

High peaks covered with snow.

Northern plateau dry and arid.

DRAINAGE—Rio Grande, navigable in lower course.

Sixth Week.

INDUSTRIES AND PRODUCTS.

Mining. The silver mines are the richest in the world. Gold, copper and lead are also found.

IMPORTS AND EXPORTS.

Exports—Silver, hemp, coffee, gold, tobacco, cattle.

Imports—Manufactured goods.

OTHER INDUSTRIES.

Lumbering in coast regions. Mahogany, ebony, rosewood.

Cultivating coffee, sugar, tropical fruits, cotton, wheat, corn. Hemp is grown on the plateaus.

TRADE ROUTES.

Railroads connecting United States and Mexico.

CITIES.

Mexico City—capital and chief city.

Vera Cruz—chief port.

PEOPLE — Spaniards — mostly Roman Catholics.

Government is modelled after that of United States.

Seventh Week.

CENTRAL AMERICA.

LOCATION—What direction from Mexico.

Between what two continents.

Bounded by what waters.

SURFACE—Mountainous. Many volcanic peaks.

DRAINAGE—San Juan, the outlet of Lake Michigan is the only important river.

CLIMATE.

PEOPLE—Half the population Indians.

The whites are of Spanish descent.

The rest are half breeds.

INDUSTRIES—Collecting rubber and mahogany.

Gold and silver mining.

Cultivating coffee and bananas.

COUNTRIES—British Honduras, Guatemala, Honduras, Salvador, Nicaragua, Costa Rica, Panama.

CHIEF CITIES.

Panama, canal.

Colon.

HISTORY—The countries belonged to Spain, but in 1821 they declared their independence. All but British Honduras formed a United States of Central America, but in 1845 the union was dissolved. Now the countries are republics but badly governed.

Eighth Week.

WEST INDIES.

LOCATION—Extend from Gulf of Mexico to the mouth of the Orinoco.

MAIN GROUPS.

Greater Antilles—mountainous.

Lesser Antilles—volcanic.

Bahamas—low, sandy, coral formations.

CLIMATE—Warm.

Rainfall abundant in summer.

Hurricanes in early fall.

PEOPLE—Mostly Spaniards. Some negroes and some of mixed races.

INDUSTRIES AND PRODUCTS—Agriculture is the chief industry.

Raising sugar, tobacco, coffee, fruits.

Sponge and turtle fishing in the BAHAMAS.

Government—Cuba, a republic lately under the protection of United States.

Porto Rico owned by United States.

Hayti, two republics governed by negroes.

Bahamas and Jamaica belong to Great Britain.

Ninth Week.

REVIEW OF NORTH AMERICA.

1. Size as compared with other continents.
2. Position.
3. Great mountain systems.
4. River Systems. Large seas, gulfs, bays and islands.
5. Political divisions.
6. Brief review of each country in North America according to topics in geography syllabus (page 5).

Tenth Week.

SOUTH AMERICA AS A WHOLE.

LOCATION AND EXTENT.

In what hemisphere.

What direction from North America.

In what zones.

COAST LINE.

More regular than that of North America.

CAPES—Most northerly, Cape Galinas.

On eastern coast, Cape St. Roque.

On western coast, Cape Blanco.

Most southerly, Cape Horn.

ISLANDS—Tierra de Fuego, Falkland Islands.

BOUNDARIES.

SURFACE—Andes compared with Rocky Mountains.

Brazilian Plateau and Guiana Plateau compared with the Alleghanies.

Great Central Plain of South America compared with that of North America.

SIZE—About three-fourths as large as North America.

Eleventh Week.

DRAINAGE—Study of Orinoco, Amazon and Plata.

Orinoco drains the northern part, flows into the Atlantic. It is navigable for more than 1000 miles.

Amazon drains more than one-third of South America. Mouth more than 100 miles wide. Navigable 1000 miles for ocean steamers; 2000 miles for large river boats.

Plata and its tributaries, the Parana and the Paraguay, drain a basin as large as the Mississippi.

CLIMATE—Varies little.

Lowlands in north always hot.

Lowlands in central part have hot summers, mild winters.

Highlands in north and central parts temperate. Southern parts always cold.

Wind Belts.

Northeast and Southeast trades cause abundant rainfall in eastern Brazil and east of the Andes in the north.

Western slopes of Andes are dry.

Abundant rainfall in Amazon and Orinoco valleys.

Prevailing westerlies in south.

VEGETATION—Dense tropical forests in hot lowlands around the Amazon. Silvas are impenetrable. The plants are strange and wonderful—palms, rubber trees, orchids.

In the lowlands of Orinoco rainfall is not continuous. Two seasons—summer and fall are rainy. Remainder of year is dry.

No forests but llanos covered with grasses in wet season, and almost a desert in dry season.

Southern lowlands east of Andes have sufficient rainfall to support rich grasses.

ANIMALS.

Anteaters	Monkey
Alligators	Boa Constrictor
Jaguar	Parrots
Tapir	Insects.

ANIMALS OF ANDES.

Llama	Alpaca
Condor	Deer
Puma	Bear.

Twelfth Week.

HISTORY OF SETTLEMENT OF SOUTH AMERICA.

See Tarr & McMurry's Europe and Other Countries.

LEADING COUNTRIES AND CAPITALS.

Brazil, Argentina, Chile, Venezuela, Peru, Colombia.

Thirteenth Week.

BRAZIL.

LOCATION.

In what part of South America.

In what zones.

SIZE—Compared with United States without Alaska. Compared with New York State, see Appendix, Tarr & McMurry.

SURFACE—Northern part, silvas; central and southern part, plateau.

DRAINAGE—Amazon drains most of Brazil.

Plata drains the southern part.

CLIMATE—Except in the extreme south, Brazil lies in the Torrid Zone. Northern and southern parts receive abundant rainfall all the year round. Central plateau has dry winters.

Fourteenth Week.

INDUSTRIES AND PRODUCTS.

Mining—Diamonds, copper, iron.

Agriculture—Coffee, cotton, sugar, tobacco.

Collecting rubber, dyewoods, timber.

Herding cattle in southern part.

PEOPLE—About one-third are whites. About one-third are a mixture of other races. The others are negroes and Indians.

The Brazilian people are intelligent, progressive, and enthusiastic in the reception of new ideas; fond of literature, poetry, drama, music and painting.

GOVERNMENT—Republic.

IMPORTANT CITIES.

Rio Janeiro—coffee.

Santos—greatest coffee market in the world.

Para exports rubber.

Bahia exports diamonds.

EXPORTS—coffee, rubber, sugar, dyes, nuts.

IMPORTS—wheat, flour, sugar, kerosene, machinery, hardware.

Fifteenth Week.

ARGENTINA.

LOCATION—In what part of South America. What direction Chile.

SIZE—Compared with other countries of South America. Compared with United States.

SURFACE—A vast unbroken plain except in the western part where it is mountainous.

CITIES—Buenos Aires, capital, largest city of South America, has a fine harbor. It is the most important railroad center of South America.

CLIMATE—In the valley of the Plata the climate is one of the finest in the world; free from frost and remarkably healthful. The climate of southern Patagonia is very severe.

INDUSTRIES.

Agriculture—wheat, corn, sugar, flax, grapes.

Grazing—cattle, sheep.

Manufacturing—sugar, flour, liquors, wine.

PEOPLE—Ruling population is Spanish. There are many Indians, also large numbers of immigrants from other countries, especially from Southern Europe.

The Patagonians are migratory Indians of great physical strength.

Great attention is paid to the education of the people.

Sixteenth Week.

CHILE.

LOCATION—In what part of South America. What directions from Argentina.

SURFACE—Mountainous.

Fully one-half of Chile, the northern part, is devoid of vegetation and rainfall. The southern part is wooded and capable of producing rich crops of grain.

CITIES—Santiago, capital, is in the centre of a beautiful valley. It is an attractive city with fine parks, public buildings, well-kept streets.

Valparaiso—seaport. Chief attraction is the climate.

INDUSTRIES AND PRODUCTS.

Mining—nitrate, copper, silver, coal.

Agriculture—wheat, timber.

Grazing—horses, sheep, cattle.

Commerce—greater with Europe than with United States.

PEOPLE—In educational matters, Chile is far in advance of the other South American republics.

EXPORTS—nitrate, copper, silver, wheat.

IMPORTS—manufactured goods, machinery.

Seventeenth Week.

VENEZUELA.

LOCATION—Northern part bordering on Carribean Sea.

SURFACE—Andes in northern and western parts. Guianas plateau in southern and eastern. Llanos in central part.

DRAINAGE—Orinoco.

INDUSTRIES—Agriculture, cattle raising.

PRODUCTS—Coffee, cocoa, sugar, cocoanut, tropical fruits, hemp.

CLIMATE—Great variety, so that almost anything can be cultivated.

CITIES—Caracas, capital, beautifully situated.

PEOPLE—Majority are Indians. Many are descendants of the Incas. Ruling people are Spaniards.

Eighteenth Week.

COLOMBIA.

LOCATION.

SURFACE—Colombia lies on both sides of the Andes.

Eastern part is hot, moist lowlands.

CLIMATE—Great variety of climate and vegetation.

Most of the people live on the highlands where the climate is delightful.

INDUSTRIES.

Mining—silver, gold, platinum, emeralds.

Agriculture—bananas, wheat, corn, tobacco, cacao, coffee.

Cattle raising in the northwest.

EXPORTS—Coffee, gold, silver, rubber, live stock.

IMPORTS—Machinery, manufactured articles.

PEOPLE—Indians and negroes.

Nineteenth Week.

PERU.

LOCATION.

SURFACE—Mountainous.

CLIMATE—West, hot and dry; east, rainy.

PRODUCTIONS—Sugar, cotton are cultivated in west by irrigation; cacao, coffee, Peruvian bark, rubber in east.

Alpaca and sheep are raised for fleece.

CITIES—Lima, capital, known as the Paris of America.

Twentieth Week.

REVIEW.

6A GRAMMAR

By Johanna L. Becker

First Week.

I. Kinds of sentences, declarative and interrogative.

Over the hill the farm-boy goes.
John Cabot was a great explorer.
Last night the moon had a golden ring.
Have you finished your lesson?
What causes the change of seasons?
Who wishes to take a walk with me?

II. Imperative and exclamatory sentences.

Keep off the grass.
Distrust the man that flatters you.
Pity the sorrows of a poor old man.
Send for a physician.
How blue the sky looks!
How beautiful those clouds are!

III. Order of subject and predicate in declarative and interrogative sentences. Emerson & Bender, page 7.

Father has gone to Chicago.
Down went the flag.
Amidst the storm they sang.
Is James here?
Has James come?

Changing sentences to natural order and vice versa.

Over the hill the farm-boy goes. Emerson & Bender, page 8.

The moist, still air was *sweet*. Emerson & Bender, pages 8, 9.

IV. Changing declarative to interrogative and vice versa. Emerson & Bender, pages 14, 13.

Arbor Day originated in Nebraska. Exercise 9.

Where do oranges grow in abundance? Exercise 11.

V. (a) Tell kind of sentence and give reason.

Benevolence is a duty and a pleasure.
Hast thou a star to guide thy path?
Lead us to some far-off sunny isle.

(Additional sentences in Maxwell's School Grammar, p. 31.)

(Additional sentences in Emerson & Bender, page 17, exercise 14.)

(b) Change sentences to natural order,

Southward our war fleet sailed.
Fourscore were the ships in line.

(Maxwell's School Grammar, p. 33, exercise 16.)

(c) Write five declarative sentences.
" " interrogative "
" " imperative "
" " exclamatory "

Definitions.

A declarative sentence is a sentence used to state something.

An interrogative sentence is a sentence used to ask a question.

An imperative sentence is a sentence used to express a command.

An exclamatory sentence is a sentence used to express strong feeling.

Second Week.

NOUNS.

Definition.—A noun is a word used as a name.

I. Teach the noun according to Longmans' Grammar, pages 1—6.

a. Selecting names of particular places, people,

b. names of kinds of places as garden, country,

c. names of kinds of people as maid, sister, priest,

d. names of kinds of animals as dog, fox, fly,

e. names of things,

f. names of qualities,

g. names of actions.

II. Recognition of collective and abstract nouns.

Flock of birds, *shoal* of fish, *regiment* of soldiers, *laziness, purity, boyhood.* (Emerson & Bender, pages 114, 115.)

III. Forming nouns by adding suffix *ness, ity, ion,*

Good, wide, lively, sincere, act, separate. (Emerson & Bender, page 114.)

IV. Possessives of nouns. Emerson & Bender, pages 128, 129.

V. Plurals of nouns ending in y, o, sh, ch, x, z. (Emerson & Bender, pages 118—119.)

(Spelling rules for formation of plurals should be taught in spelling lessons.)

Third Week.

VERBS.

Definition.—A verb is a word used to tell something.

I. Teach the verb by using type sentences.

1. What things do.
2. What is done to things.
3. What things are.
4. Qualities of things.

Drill on underlining verbs.

II. Rapid drill on underlining verbs.

They hung a lantern in the church tower.

Paul Revere saw the lantern.

He carried the news to the people. (Emerson & Bender, page 187.)

III. Verb phrases with have, had. shall; do, did in interrogative sentences.

The children were playing on the seashore.

I will now write a letter.

Do you hear your father? (Emerson and Bender, page 35.)

IV. Teach the principal parts of verbs come, do, give, run, see, break, speak. write, steal, shake, take.

Emerson & Bender, p. 209, exercises 187, 189; p. 235, exercise 210; p. 236. exercise 211; p. 241, exercise 218; p. 242. exercise 219; p. 243, exercises 220, 221; p. 244, exercise 222 has excellent sentences for drill in the principal parts of verbs.

Fourth Week.

COMPLEMENTS.

I. Object complement. Teach by using type sentence what things do.

II. Predicate or attribute complement. Teach by using type sentences what things are and what quality things are.

III. Analysis of simple sentences with object complements and attribute complements. Lay stress on the fact that

sentences which tell what things are and quality of things always have either a predicate noun or predicate adjective or predicate pronoun.

IV. Using the same word as a noun and as a verb.

Walk, fine, cross, guide, strike, work, thought, step, soil, dust, dress.

V. Drill on having children give sentences with object complements, with predicate complements.

IV. Teach correct forms of personal pronouns when used as subject, object, attribute *I, He, She, We* or *They* worked the examples.

Who wants this apple? *I, She, He, We, They.*

They sent for you and *me, him, her, us* or *them.*

It was *I, she, he we* or *they.*

Drill on the fact that *I, she, he, we* and *they* are used for subject or attribute; and that *me, him, her, us* and *them* are used for object.

Emerson & Bender, pages 151, 152, 153 and Buehler's Practical Exercises in English, pages 45—48, have excellent sentences for drill.

V. Correct forms of *who, whom.*

Maxwell's School Grammar, page 102, exercise 45; Buehler's Exercises, page 48, paragraph VII.

Fifth Week.

PRONOUNS.

Definitions.—A pronoun is a word used instead of a noun.

I. Recognition of personal pronouns.

(Emerson & Bender, page 26, exercises 24, 25, 26.)

II. Ten minute drill in underlining personal pronouns.

The beginning of a river is called its source.

Cornelia said of her boys, "These are my jewels."

(Emerson & Bender, page 143, exercise 136.)

Write a list of the pronouns learned on some unused blackboard and as new pronouns are learned add to the list.

Recognition of interrogative pronouns.

Who is coming? Whose hat is this? Which do you prefer? Whom do you want? What did you say?

Use the sentences on page 155, Emerson and Bender, just as a drill in recognizing pronouns.

III. Agreement of pronouns. Emerson and Bender, page 147; exercise 139. Fill each blank with a pronoun and give reasons.

The boys have gone to — room. England expects every man to do — duty.

Sixth Week.

I. Recognition of relative pronouns.

Emerson and Bender, p. 158, exercises 147, 148.

II. Underline relative pronouns in Emerson and Bender, p. 165, exercise 154.

III. Recognition of a few adjective pronouns, such as:

That is my book.

How *many* were injured?

This is my hat.

Several have left school.

Some were captured.

NOTE.—The names of the classes of pronouns are not to be taught, but the children should be able to recognize who, whom, whose and which as pronouns.

IV. Analysis of interrogative sentences such as—Who called me? Whom do you want? Who has my hat? What does little baby say? Whom did the teacher help?

V. Drill on verbs lie, lay.

There are excellent sentences for drill in Emerson and Bender, pages 235, 236 and in Buehler's Practical Exercises, page 67.

Seventh Week.

ADJECTIVES.

Definition.—An adjective is a word used with a noun or pronoun to describe or limit its meaning.

I-II. Teach descriptive and limiting adjectives. Emerson and Bender, pages 29, 30, 173.

Drill on naming the adjective and telling what word it modifies.

Many rich men live in large houses.

Many is an adjective because it is used with the noun man to limit its meaning.

III. Comparison of adjectives.

IV. Underline the adjectives and tell what each one modifies.

Mr. Gathergold had small, sharp eyes. —Hawthorne.

"The sweetest flowers are ever frail and fair."

Emerson and Bender, page 181, exercise 165.

V. Using the same word as noun, adjective and verb.

Eighth Week.

ADVERBS.

Definition.—An adverb is a word used to modify the meaning of a verb, an adjective, or another adverb.

I. Teach the adverb according to Longman's English Grammar, pages 42, 43, 44.

II. Underline the adverbs and tell what each modifies in Emerson and Bender, page 55, and Maxwell's Elementary Grammar, page 41.

III. Adverbs modifying adjectives. Have the children think of a sentence telling what quality things are and tell them to insert a word telling how before the predicate adjective, thus: The apple is *too, very, rather* or *so* sweet.

IV. Adverbs modifying adjective.

The man walked *somewhat, too, very* or *rather* rapidly.

Emerson and Bender, page 53, exercise 54.

V. Using the same word as adjective, adverb. Maxwell's Elementary Grammar, page 42.

Ninth Week.

Review noun, pronoun, verb, adjective, adverb.

Use the same word as different parts of speech.

Analysis of simple sentences. Maxwell's Elementary Grammar, page 52.

Tenth Week.

CONJUNCTION AND COMPOUND PARTS.

I. Teach compound subject and predicate.

II. Using groups of nouns as compound subject.

Using groups of verbs as compound predicate. Emerson and Bender, page 80, exercise 83; page 81, exercise 84.

Use wheat and cotton as compound subject.

Use stop and rest as compound predicate.

Combine these sentences and tell what part of each contracted sentence is compound.

The moon shines at night. The stars shine at night.

III. Teach the conjunction by using exercises like the following: He understood the example. He solved it. Combine.

He understood the example *after* he *solved it.*

Instead of after, use *because, if, when* and *before* in combining these clauses.

IV. Analysis of sentences with compound parts.

Eleventh Week.

PHRASES.

I. Adjective phrases. Emerson and Bender, pages 86 and 87, exercises 90 and 91.

II. Adverbial phrases, Emerson and Bender, page 87, exercises 92, 93, 94.

III. Change the adjectives which are underlined to adjective phrases: The *daily* tasks are ended. Drill on the fact that the adjectives must become nouns. Maxwell's Elementary Grammar, pages 68, 69, 70, 71.

IV. Analysis of sentences with compound parts.

The hollow branches creaked and swayed.

Columbus knelt down and kissed the earth.

"He prayed and felt for all."

"I rose and found the shining dew on every buttercup."

"The warrior suddenly paused and bent his head aside."

The Indians gave a yell and fled to the woods.

The origin of the mariner's compass is unknown.

The mountain and the squirrel had a quarrel.

Twelfth Week.

PREPOSITIONS.

Definition.—A preposition is a word used to show relation between a noun or pronoun and some other word in the sentence.

I. Teach the preposition. Have a great many sentences with phrases on the board. Underline the phrases and mark the first word of each phrase. Show how this little word brings the words which follow it into relation with the rest of the sentence.

II-III. Drill on underlining phrases and doubly underlining prepositions. Drill on naming the words brought into relation.

IV. Analysis of sentences with phrases.

Our cabin in the forest has a chimney of stone.

The judge rode slowly down the lane.

The students of the college often rowed on the lake.

(Maxwell's Elementary Grammar, pages 70, 71.)

Thirteenth Week.

INTERJECTIONS.

I. Teach the interjection.

II. Teach the difference between an adverb and a preposition. Emerson and Bender, page 66.

III. Analysis of sentences with compound parts.

IV. Analysis of sentenecs with phrases.

Fourteenth Week.

PHRASES.

I. Teach the noun phrase used as subject.

II. Teach the noun phrase used as object.

III. Teach the noun phrase used as predicate noun.

IV. Review of adjective, adverbial, and noun phrases.

Fifteenth Week.

I. Teach how one phrase may modify the object noun of another phrase.

The floor of the cave was covered with heaps of gold.

The fatal shot was fired before the dawn of day.

The children found a tree with leaves of silver.

II. Teach how two phrases may be connected by a conjunction.

A good voice has a charm in speech and in song.

III. Drill on telling what part of speech each word in the sentence is and give a reason for the answer. Special attention to verb phrases, naming the verb phrase as one part of speech and not dividing it into two or three verbs.

IV. Analysis of sentences.

The bright flowers of the morning glory climbed over the garden wall.

He put spurs to his horse and galloped away.

The editor read the poem and published it.

Additional sentences may be found in Maxwell's School Grammar, pages 57, 58; Emerson and Bender, page 115; Maxwell's Elementary Grammar, p. 73.

Sixteenth Week.

REVIEW.

I. Nouns. Recognition of all kinds, collective and abstract included.

II. Plurals of nouns. Emerson and Bender, page 119, exercise 118; p. 123, exercise 120.

III. Possessives of nouns. Emerson and Bender, pages 128 and 129, exercises 126, 127.

IV. Uses of nouns as subject, object, predicate noun, object of a preposition.

Seventeenth Week.

I. Review the pronoun. Rapid drill in recognizing personal, interrogative, relative and adjective pronouns. See Maxwell's School Grammar, page 99.

II. Verb. Rapid drill in underlining the verbs. Emerson and Bender, p. 187.

Rapid drill on parts of verbs. Emerson and Bender, pages 242, 243, 244.

III. Correct forms of prepositions between, among; at, in; on, at (wedding); by, to (my aunt's); of, from, to (key to room); in, into.

in, into.

Emerson and Bender, pages 265, 266. Buehler's Practical Exercises, page 135.

IV. Analysis.

Eighteenth Week.

Review adjectives and adverbs.

Analysis of sentences. Maxwell's Elementary Grammar, pages 77, 126, 132.

Analysis of sentences with noun phrases . Maxwell's Elementary Grammar, page 72.

Nineteenth Week.

Analysis.

Drill on all parts of speech using a history text book or some other.

Drill on phrases.

Twentieth Week.

Drill on all parts of speech and phrases.

Analysis.

6A COMPOSITION.

By Azubah N. Farley.

First Week.

LETTER. Reproduction of an application for a position.

MODEL.

700 East 110th St., New York.
June 15, 1912.

Mr. H. W. Lawson,
400 Fulton St., B'klyn.

Dear Sir:—

I have learned that you are in need of an errand (boy or girl), and as I am obliged to leave school, I would like to obtain a place with you. I am fourteen years old.

Please apply to my Principal, Miss Wood, P. S. No. 9, for reference.

Respectfully yours,

COMPOSITION—The Wind and the Sun.

The North Wind and the Sun had a dispute as to which of the two was the stronger. While they were talking, a traveler came in sight, and they agreed that the one should be called stronger who should first make the traveler take off his coat.

The North Wind began to blow as hard as he could upon the traveler. But the harder he blew, the more closely did the traveler wrap his cloak round him, till at last the North Wind, having put forth all his strength in vain, had to give up in dispair.

Then the Sun, driving away the clouds shone in all his glory. He darted his most sultry beams upon the traveler, who soon found it too hot to walk with his cloak on. He flung it off and ran for protection to the nearest shade.

OUTLINE—*The Wind and the Sun.*

I. The dispute between the North Wind and the Sun.

II. The North Wind tries to prove that he is the stronger.

III. The success of the Sun.

Second Week.

LETTER.—Answer the folowing advertisement.

Wanted an errand (boy or girl). Answer in own handwriting stating age, education, whether living at home or not, and reference.

Abraham & Strauss,
Fulton St., Brooklyn.

COMPOSITION.—The Minuteman.

References: Page 162, McKeon, Composition Lesson. Knowledge gained from study of the Revolution by the children.

OUTLINE.

I. The origin of the minuteman.

II. The patriotism of the minutemen.

III. The work of the minutemen.

Lexington and Bunker Hill.

Third Week.

LETTER.—Reproduction of an excuse for absence.

410 Stone Avenue, Brooklyn, N. Y.,
March 8, 1912.

Dear Miss ———,

Please excuse me for being absent on Tuesday, March the seventh. I had a severe toothache.

I will do the lost work this afternoon.

Yours respectfully,

——— ———.

COMPOSITION. — Reproduction—using any character well known and liked.

781 Sutter Avenue, Brooklyn, N. Y.,
February 20, 1912.

Dear Joe,

When I grow up, I am going to try to be like Abraham Lincoln. I have just finished reading his life and am delighted with it. He is a man for American children to imitate, I think. Such a splendid example of perseverance, endeavor, and noble self-sacrifice. I shall probably not become the President of the United States, as he did, but if I can be as honest, studious, persevering, and kind hearted as well, I will be sure to succeed in life, and make many friends.

Just think how he began! Why, I have twice as many advantages. So I shall do my best and keep my eye on my model. Wish luck to your friend,

Tom.

OUTLINE.

I. (a) The example of Abraham Lincoln to American children.

(b) Qualities to be imitated.

II. Your advantages as compared with Abraham Lincoln.

Fourth Week.

LETTER.—An original excuse for absence.

Address of envelope.

COMPOSITION.—Description of some familiar object at home. McKeon, page 100.

OUTLINE.

I. Impression of the whole with location.

II. Material.

III. Shape and size.

IV. Use—Age.

V. Owners—Associations.

Fifth Week.

LETTER.—An order reproduced.

750 Greene Ave., Brooklyn,
Jan. 20, 1912.

Messrs. Stern Bros.,
West 23rd St., New York City.

Gentlemen:—

Kindly send me, C. O. D., 3 yards of navy blue taffeta ribbon, best quality, 4 inches wide, and 6 yards of cheap black percaline dress lining, 15 cents a yard or thereabouts.

Yours truly,

_____ _____.

Addressing of envelope.

COMPOSITION.—Finish the following:

"Look!" cried George, "I am sure I heard something behind those bushes." The two boys put down their fishing tackle and crept cautiously toward the spot.

Sixth Week.

LETTER. — Original letter ordering goods.

COMPOSITION.—Reproduction.

A Cheerful View of Things. Buehler & Hotchkiss, page 304.

OUTLINE.

I. The remark of the Bucket on the way to the well.

II. The reply.

III. The Bucket answers and shows that it is now satisfied.

Seventh Week.

LETTER.—Write a letter to your best friend and invite (her or him) to go with you to the Museum of Natural History on your next holiday. Tell your friend where to meet you and state the time, and also, that this little outing is to celebrate your birthday.

(Two lessons).

Eighth Week.

LETTER.—Copy of following:

708 New York Ave., Brooklyn, N. Y.
June 7, 1912.

To the Librarian of the Brooklyn Public Library.

Dear Sir:—

I wish very much to belong to the Brooklyn Public Library, that I may enjoy its many privileges.

I am twelve years of age and in the sixth grade of P. S. No. 150. My teacher's name is Miss Brown.

Will you kindly send me a catalogue, the blanks to be filled out, and any information that you think necessary? For all of which I shall be very grateful.

Respectfully yours,

_____ _____.

COMPOSITION. — Coffe — Model from Tarr & McMurry's Europe, page 116.

OUTLINE.

I. Conditions under which the coffee plant grows best.

II. Cultivation.

III. Description of the flower and fruit.

IV. Coffee of commerce.

Ninth Week.

LETTER.—Original application to join the library.

COMPOSITION—Account of Burgoyne's Campaign.

I. The threefold plan of the British.

II. Defeat of St. Leger and the work of the Green Mountain Boys against Burgoyne.

III. (a) The failure of Howe to reach Albany. (b) Schuyler changed for Gates.

IV. The Surrender at Saratoga.

Tenth Week.

LETTER.—Application for a position.

807 Fulton St., Brooklyn, N. Y.,
March 9, 1912.

Mrs. C. James,
90 Putnam Ave., Brooklyn.

Dear Madam:—

I understand that you are in need of an apprentice in your business, and would like to obtain the place with you. I am a neat and quick sewer, having taken the Public School course in sewing besides helping with the family's sewing.

For reference, please apply to my former principal, Miss Reed, P. S. No. 7.

Respectfully,

COMPOSITION.—The Story of the Cyclop (oral). Page 1-11. Adventures of Ulysses.

OUTLINE.

I. The home of the Cyclop, and the arrival of Ulysses and his men.

II. The return of the Cyclop and his flock.

A description of the Cyclop.

III. (a) The anger of the Cyclop.
(b) The plan of Ulysses.

IV. The escape.

Eleventh Week.

LETTER.—An excuse for absence.

COMPOSITION.—Finish and write THE STORY OF THE CYCLOP.

Twelfth Week.

LETTER.—Application for a position.

COMPOSITION.—A letter from one of the soldiers at Valley Forge to his Mother.

OUTLINE.

I. The scarcity of writing materials and the joy of receiving a letter.

II. A description of the army and how the days are spent. Some of the great leaders.

III. Some special work done by the writer that morning.—Breaking the ice to get water to cook breakfast with—relieving a sick friend who was on duty, etc.

IV. The joy caused in camp by hearing of the success of Franklin in France and the eagerness with which all looked for spring.

V. A loving message for all the people at home.

(The oral work one week).

Thirteenth Week.

The written letter of the soldier.

Fourteenth Week.

LETTER.—An order for goods.

COMPOSITION.—Scylla and Charybdis pages 31-37, Adventures of Ulysses.

OUTLINE.

I. Location and description of Scylla and Charybdis.

II. Ulysses's plans for escaping the monsters.

III. The peril of passing Scylla.

IV. The escape from Charybdis.

Fifteenth Week.

LETTER.—An invitation written from a model.

431 New York Avenue,
Brooklyn, N. Y., April 9, 1912.

Dear Mary,

Monday is my birthday and I am looking forward to having a pleasant party in the afternoon. I hope that nothing will happen to prevent you from coming.

It has been such fun to plan the games and other entertainment that I think the afternoon will be a happy one.

Your loving friend,

——— ———.

COMPOSITION—The Senate and the House of Representatives.

OUTLINE.

Question form.

Of how many men does the Senate consist?

The House of Representatives?

How many senators are there from each State?

How many representatives from each State?

How is a senator chosen?

A representative?

How long does each hold office?

Where do these legislators meet?

What is the difference between the duties of a senator and those of a representative?

The children make their outline.

Sixteenth Week.

ORIGINAL LETTER FOR INVITATION.

COMPOSITION—The Senate and the House of Representatives.

Written from their own outlines.

Seventeenth Week.

LETTER—Subscription for a newspaper.

710 De Kalb Avenue,
Brooklyn, N. Y., March 9, 1912.

To the Publisher of "The Literary Digest," Boston, Mass.

Sir:—

You will find enclosed a money order for three dollars ($3), for which you will please send to my address a copy of "The Literary Digest" for one year, beginning with the first number of the present volume.

Yours respectfully,

——— ———.

COMPOSITION—An Imaginary Journey to America 1492.

I. The start from Italy.
The farewell and the curious crowd.

II. Passing out of sight.
The first night.

III. The uneasy days.

IV. Seeing the first land.

Eighteenth Week.

LETTER—Original subscription order.

COMPOSITION—Write an Imaginary Journey to America in 1492.

Nineteenth Week.

LETTER—Original aplication for a position.

COMPOSITION—Reproduction—A Tar Baby, page 117, Buehler and Hotchkiss.

I. Brother Goat and Brother Rabbit.
When they lived.
How they liked each other.

II. Brother Rabbit's plan.

III. How the plan worked.

IV. The escape of Brother Rabbit.

Twentieth Week.

LETTER—Original order for goods.

COMPOSITION—The Tar Baby.

6A SPELLING.

By Alice M. Fyfe.

40 WORDS A WEEK.

First Week.

1	endowed	21	causes
2	treasure	22	revolution
3	diminish	23	government
4	possessions	24	executive
5	accumulate	25	question
6	increasing	26	between
7	sentence	27	Canada
8	declarative	28	Arctic
9	interrogative	29	Pacific
10	imperative	30	St. Lawrence
11	grammar	31	peninsula
12	noun	32	truly
13	prose	33	respectfully
14	poetry	34	telephone
15	industries	35	geography
16	boundaries	36	history
17	location	37	composition
18	manufacturing	38	memory
19	commerce	39	memorize
20	comparison	40	memorable

Second Week.

1	wagon	21	scenery
2	carriage	22	majestic
3	automobile	23	prefix
4	control	24	suffix
5	controlled	25	modified
6	library	26	newspaper
7	dictionary	27	market
8	subject	28	errand
9	predicate	29	judgment
10	object	30	mutiny
11	complement	31	Quebec
12	character	32	Toronto
13	separate	33	commercial
14	complete	34	resources
15	independence	35	foreign
16	colonies	36	statesmen
17	original	37	historical
18	tobacco	38	signers
19	groceries	39	restricting
20	merchant	40	congress

Third Week.

1	motorman	21	umbrella
2	elevated	22	pronoun
3	pencil	23	analyze
4	vegetables	24	analysis
5	agriculture	25	complement
6	proficient	26	cleanliness
7	proficiency	27	engine
8	plateau	28	calendar
9	salmon	29	district
10	trapping	30	effort
11	fisheries	31	laborer
12	provinces	32	national
13	usually	33	custom
14	particular	34	justice
15	machinery	35	valuable
16	service	36	mischief
17	mechanic	37	weather
18	familiar	38	whether
19	privilege	39	wait
20	neighbor	40	weight

Fourth Week.

1	difficulty	21	definition
2	immense	22	precipice
3	lonesome	23	torrents
4	occasionally	24	inaccessible
5	complete	25	assurance
6	ignorance	26	navigation
7	destroy	27	tyranny
8	jealous	28	continental
9	receipt	29	Ontario
10	paragraph	30	Superior
11	representation	31	Newfoundland
12	taxation	32	Nova Scotia
13	mutiny	33	Laurentian
14	assistance	34	spruce
15	massacre	35	nickel
16	civics	36	mackerel
17	sufficient	37	cargoes
18	emotion	38	merchandise
19	preceding	39	wharves
20	exercise	40	molasses

Fifth Week.

1	tropical	21	conductor
2	sponges	22	audience
3	adjective	23	musician

4 pronounce
5 nobility
6 direct
7 ludicrous
8 determine
9 apothecary
10 druggist
11 pharmacist
12 patriots
13 invasion
14 scheme
15 surrender
16 legislative
17 judicial
18 political
19 subway
20 surface
21 sincerely
25 unknown
26 disappoint
27 cactus
28 mahogany
29 Yucatan
30 Sierre Madre
31 acknowledge
32 encourage
33 necessary
34 opportunity
35 realize
36 intelligent
37 supreme
38 education
39 cobbler
40 grocer

Sixth Week.

1 excuse
2 pencil
3 policeman
4 collar
5 color
6 cravat
7 avenue
8 tailor
9 parents
10 deportment
11 friend
12 individual
13 dense
14 excusable
15 leisure
16 various
17 apologize
18 society
19 hospitable
20 using
21 confectionary
22 stationary
23 stationery
24 dentist
25 hospital
26 sugarcane
27 pineapples
28 southern
29 committee
30 economy
31 diligent
32 customer
33 mischievous
34 millinery
35 certificate
36 magazine
37 legible
38 ascertain
39 majority
40 physician

Seventh Week.

1 climate
2 central
3 Nicaragua
4 Costa Rica
5 Honduras
21 business
22 appearance
23 occasion
34 impossible
25 ancient
6 Panama
7 Guatemala
8 territories
9 immigration
10 treasury
11 siege
12 maneuvers
13 capital
14 capitol
15 campaign
16 adoption
17 evacuation
18 promise
19 receive
20 grateful
26 interrupt
27 fatiguing
28 portraits
29 corridors
30 route
31 forbade
32 illness
33 advertisement
34 grate
35 great
36 immense
37 current
38 currant
39 remote
40 classify

Eighth Week.

1 population
2 Haiti
3 Jamaica
4 Antilles
5 Carribean
6 Bahamas
7 adverb
8 pronounce
9 pronunciation
10 memorizing
11 bale
12 bail
13 Tories
14 quarters
15 sufferings
16 originality
17 alliance
18 confederation
19 purchase
20 citizen
21 election
22 coinage
23 vender
24 butcher
25 common
26 continued
27 navigable
28 vegetation
29 temperate
30 peculiar
31 sufficient
32 conscience
33 severe
34 seldom
35 repent
36 trembles
37 fortress
38 terror
39 grieves
40 release

Ninth Week.

1 increase
2 exceeding
3 presence
4 vision
5 vanished
6 awakening
7 cheerily
21 elected
22 assembly
23 fortune
24 possible
25 governor
26 colonists
27 companion

8 perilous
9 ramparts
10 breathe
11 conceals
12 conquer
13 liberty
14 sincere
15 settlers
16 hollowing
17 elegance
18 introduced
19 employed
20 household
28 imposed
29 mention
30 treatment
31 successeded
32 surprise
33 anxious
34 volunteers
35 pursued
36 decided
37 command
38 headquarters
39 season
40 defeated

Tenth Week.

1 here
2 hear
3 common
4 armies
5 defeated
6 smuggled
7 earlier
8 prosper
9 startled
10 rebellious
11 repealed
12 continued
13 aroused
14 permission
15 delegates
16 mention
17 record
18 merely
19 postage
20 expensive
21 though
22 through
23 thought
24 disperse
25 aroused
26 patriotic
27 skillfuly
28 strengthen
29 waste
30 powder
31 citizens
32 echo
33 majestic
34 weary
35 sieze
36 capture
37 cannon
38 evacuation
39 surely
40 spectacles

Eleventh Week.

1 nevertheless
2 believe
3 afterwards
4 strangely
5 freedom
6 signed
7 punishment
8 acknowledge
21 describes
22 soldier
23 pursued
24 movement
25 bridges
26 oppose
27 fort
28 fought
9 message
10 pardon
11 excuse
12 particular
13 conquer
14 to
15 two
16 too
17 fashion
18 failure
19 ability
20 successful
29 influence
30 hesitated
31 delighted
32 nineteen
33 evidence
34 endure
35 importance
36 supplies
37 already
38 remarkable
39 forgotten
40 prevent

Twelfth Week.

1 diamonds
2 copper
3 nitrate
4 coffee
5 tobacco
6 wheat
7 searching
8 population
9 ocean
10 attention
11 voyage
12 elevator
13 immediately
14 interested
15 cultivate
16 profitable
17 provisions
18 expense
19 straight
20 strait
21 thoroughly
22 wonderful
23 fashionable
24 medicine
25 physician
26 disease
27 weapons
28 carefully
29 pictures
30 explorer
31 joyfully
32 handsome
33 grieved
34 century
35 plantations
36 ignorance
37 introduced
38 there
39 their
40 sailors

Thirteenth Week.

1 which
2 where
3 language
4 spoken
5 taught
6 beginning
7 conscience
8 hostile
9 articles
10 respected
21 peaceful
22 obtained
23 description
24 shelter
25 comfortable
26 themselves
27 wicked
28 kitchen
29 daughter
30 plural

11 preparation
12 scarcely
13 whispered
14 various
15 department
16 removal
17 growth
18 valuable
19 navigable
20 education
31 singular
32 preceded
33 vowel
34 consonant
35 offered
36 territory
37 purchase
38 prevent
39 merchant
40 vessels

Fourteenth Week.

1 constitution
2 adoption
3 army
4 navy
5 secretary
6 stationary
7 stationery
8 famous
9 poem
10 company
11 companion
12 suppress
13 preparation
14 conjunction
15 adverbial
16 treaty
17 interfere
18 warships
19 elsewhere
20 injured
21 inventions
22 condition
23 inaugurated
24 traveling
25 phrase
26 southeastern
27 because
28 expected
29 admitted
30 raise
31 perhaps
32 produce
33 duties
34 railroad
35 generous
36 journey
37 canal
38 advantage
39 formerly
40 cheaper

Fifteenth Week.

1 steamboat
2 laughter
3 building
4 buying
5 bought
6 problems
7 examples
8 explanation
9 remarkable
10 collected
11 government
21 publishing
22 arouse
23 society
24 celebrated
25 holiday
26 administration
27 political
28 president
29 qualifications
30 literary
31 wonderful
12 judgment
13 pleasure
14 difference
15 imitate
16 adventures
17 mentioned
18 borrowed
19 poverty
20 associated
32 increase
33 excitement
34 father
35 farther
36 secrecy
37 telegraph
38 telegram
39 quietly
40 silence

Sixteenth Week.

1 climate
2 nature
3 oranges
4 irrigation
5 hurried
6 route
7 transferred
8 continent
9 abundance
10 mountainous
11 cigars
12 molasses
13 especially
14 supplying
15 densely
16 volcanoes
17 distance
18 inhabited
19 vegetation
20 industrious
21 quantities
22 equator
23 earthquakes
24 violent
25 commencing
26 terrific
27 destroyed
28 property
29 influence
30 against
31 curious
32 loving
33 neither
34 either
35 strength
36 remember
37 musician
38 breath
39 breathe
40 heavy

Seventeenth Week.

1 policeman
2 motorman
3 southern
4 committee
5 friendly
6 hospital
7 stationary
8 dentist
9 millinery
10 ascertain
11 physician
12 using
13 conductor
21 executive
22 determine
23 mahogany
24 spruce
25 nickel
26 wharves
27 civics
28 grammar
29 analysis
30 taxation
31 privilege
32 weight
33 mischief

14 disappoint
15 intelligent
16 grocer
17 surface
18 surrender
19 legislative
20 judicial
34 familiar
35 delicious
36 independence
37 retreat
38 fortification
39 fleet
40 custom

Eigteenth Week.

1 lonesome
2 occasionally
3 remote
4 atmosphere
5 reluctant
6 assurance
7 organization
8 there
9 their
10 annoy
11 prepare
12 precede
13 proceed
14 business
16 ceiling
17 turpentine
18 reliable
19 telescope
20 colored
21 exclaimed
22 creature
23 inquired
24 stanza
25 prettiest
26 columns
27 paragraph
28 convenient
29 majority
30 compare
31 composition
32 topics
33 provinces
34 divisions
35 calendar
36 volunteers
37 employed
38 sincere
39 colonists
40 conquer

Nineteenth Week.

1 errands
2 judgment
3 complete
4 groceries
5 control
6 commander
7 stationary
8 stationery
9 steadfast
10 succeed
11 liberty
12 awakening
13 fortress
14 terror
15 citizen
21 breath
22 breathe
23 beneath
24 consonant
25 vowel
26 prevented
27 singular
28 plural
29 supplies
30 forgotten
31 immense
32 currency
33 congress
34 representative
35 senators
16 government
17 peninsular
18 boundaries
19 memory
20 commercial
36 justices
37 supreme
38 fortify
39 purify
40 majesty

Twentieth Week.

REVIEW.

6A SUFFIXES, PREFIXES, STEMS.

By Alice M. Fyfe.

First Week.

Prefix. *co, con,* with
Stem. *merc*—merchandise.. .. ....
Example—commercial, commerce
Suffix. *let*—little; eaglet.

Second Week.

Prefix. *e, ec,* ex, out
Stem. *port,* gate, to carry
Suffix. *er* one who, that which
Example—exporter

Third Week.

Prefix. sug, sus, suc, after .. ..
Stem. *cess*—go
Suffix. *ful*—full
Example—successful

Fourth Week.

Prefix. *circum*—around
Example—circumnavigate
Suffix. *ate*—make
Stem. *mir*—wonder, see
Examples—admire, miracle

Fifth Week.

Prefix. *peri,* around
perimeter
Stem. *petr,* pier, rock
petrify
Suffix. *ize,* make
memorize

Sixth Week.

Prefix. *inter,* between
Stem. *posit,* placed
interpose
Suffix. *th,* that which
sixth

Seventh Week.

Prefix. *de, un,* from
deport, description
Stem. *script,* written
Suffix. *ary* on who—missionary—adversary
ary, place.

Eighth Week.

Suffix. *ar,* belonging to
angular
Stem. *spir,* breathe
respiration, inspire—
Prefix. *sub*—under, after
subtrahend, subway

Ninth Week.

Prefix. *pre,* before
precede
Stem. ced—cess, go
Suffix. wright, workman
wheelright

Tenth Week.

Prefix. *abs,* away from
Stem. *vert, vers,* turned
invert, revert
Suffix. *ior,* more
superior, excelsior

Eleventh Week.

Prefix. *of,* against
Stem. *vir,* live
Suffix. *ly,* commonly

Twelfth Week.

Prefix. *ap,* to, against
Stem. *fare,* go
Suffix. *y, ey,* of nature of
silky

Thirteenth Week.

Stem. *sol,* alone
solitary
Stem. script, written
postscript

Fourteenth Week.

Stem. *firm;* steadfast
affirm
Stem. *graph;* write
autograph

Fifteenth Week.

Stem. *met,* send
Stem. *sec, sect,* join, connect
Last five weeks for review.

6A GRADE DICTATION.

By Alice M. Fyfe.

First Week.

LESSON I.

"Uncle Henry, haven't you a story to tell us? said Frank, one winter evening.

LESSON II.

"About what?" said Uncle Henry, as he poked at the fire.

LESSON III.

"Anything you like," was the eager reply.

LESSON IV.

A jar of honey had fallen and drawn the flies from far and near. But no sooner did their feet touch the honey than they were held fast and could not escape. "What fools we are," cried they as they sank in the sticky mass, "to die just for a taste of honey."

Second Week.

LESSON I.

"Aunt Clara," said Rob one day as he ran into the house almost breathless, "what bird is that hammering away on the ash-tree?"

LESSON II.

"That's a woodpecker," was the reply. "Haven't you ever seen one before?"

"No," answered Rob, "but I've been watching that one for some time."

LESSON III.

The southern part of Canada has great forests of pine; spruce, hemlock and cedar throughout the east and center; and pines and firs in the west.

LESSON IV.

It is said that William Penn, on meeting the King, one day, had the boldness to stand with his hat on in the royal presence. Instead of getting angry, the fun loving Charles laughed and took off his own hat.

"Why dost thou remove thy hat, friend Charles?" said William Penn.

"Because," answered the king, "wherever I am, it is customary for one to remain uncovered."

Third Week.

LESSON I.

Early one morning Pandora was tempted to break her promise. She wanted to know whether or not the key really fitted the box.

LESSON II.

When the key with a click slid into the lock it was a dangerous moment for Pandora.

LESSON III.

Her hands trembled on the edge of the lid and her breath came quickly. Before she knew it she had raised the lid to peep it.

LESSON IV.

When Pandora saw the mischief her curiosity had caused she leaned her pretty head against the box and sobbed bitterly. Between sobs she listened for the footsteps of Epimetheus. Never before had she dreaded his return.

Fourth Week.

LESSON I.

Every action in company ought to be with some sign of respect to those present.

LESSON II.

He that is good at making excuses is seldom good at anything else.

LESSON III.

We may shut our eyes, but we cannot help knowing.

That skies are clear and grass is growing.

LESSON IV.

When Freedom from her mountain height
Unfurled her standard to the air,
She tore the azure robe of night,
And set the stars of glory there.

Fifth Week.

LESSON I.

"Pray who are you, beautiful creature?" inquired Pandora.

"I am Hope," answered the sunshiny figure.

LESSON II.

"Your wings are colored like the rainbow!" exclaimed Pandora.

LESSON III.

"Yes," replied Hope, "I am partly made of tears as well as smiles."

"And will you stay with us forever?" asked Pandora.

LESSON IV.

"I promise never to desert you," said Hope. "Trust in my promise, for it is true."

And so they did, and so has everybody trusted that has since been alive.

Sixth Week.

LESSON I.

The children of the village, too, would shout with joy whenever he approached

LESSON II.

He assisted at their sports, made their playthings, taught them to fly kites and shoot marbles, and told them long stories of ghosts, witches, and Indians.

LESSON III.

The West Indies, with the exception of the Bahamas, are well supplied with abundant rainfall during the summer months.

LESSON IV.

Hail to thee, blithe Spirit!
Bird thou never wert,
That from heaven, or near it
Pourest thy full heart
In profuse strains of unpremeditated art.

Seventh Week.

LESSON I.

If there is a virtue in the world at which we should always aim, it is cheerfulness.

LESSON II.

When beechen buds begin to swell,
And woods the blue-birds' warble know,
The yellow violet's modest bell
Peeps from the last year's leaves below.

LESSON III.

Every good citizen makes his country's honor his own, and cherishes it not only as precious, but as sacred.

LESSON IV.

Ulysses S. Grant said, "We are a Republic whereof one man is as good as another before the law. Under such a form of government, it is of the greatest importance that all should be possessed of education and intelligence."

Eighth Week.

LESSON I.

Sponges are obtained from the clear warm waters of the Bahama banks. To obtain them, the natives either cruise about in boats, dragging the bottom, or they strip off their clothes and dive into the clear water, tearing the sponge from the bottom to which it is clinging.

The sponge is made by colonies of tiny animals, which together build a horny substance, much as coral polyps build coral.

LESSON III.

When brought to the surface the sponge little resembles those that we use. for animal matter fills the pores and spreads over the surface.

LESSON IV.

See what a lovely shell
Small and pure as a pearl,
Lying close to my foot,
Frail, but a work divine.
Made so fairly well.
With delicate spine and whorl.
How exquisitely minute,
A miracle of design.

Ninth Week.

LESSON I.

The voice of mankind shall ascend in acclaim,
And the watchword of nations be Washington's name.

LESSON II.

Hats off!
Along the street there comes
A blare of bugles, a ruffle of drums,
A flash of color beneath the sky:
Hats off!
The flag is passing by!

LESSON III.

Thomas Jefferson said, "When agry. count ten before you speak; if very angry, count a hundred."

LESSON IV.

Hark! with deep, clear intonation
Breaks his young voice on the air.
Hushed the people's swelling murmur.

Whilst the boy cries joyously.
"Ring!" he shouts, "Ring, grandpa,
Ring, oh ring for liberty!"

Tenth Week.

LESSON I.

Rip Van Winkle was one of those happy mortals, of foolish, well-oiled dispositions, who take the world easy, eat white bread or brown, whichever can be got with least thought or trouble, and would rather starve on a penny than work for a pound.

LESSON II.

In a long ramble, on a fine autumnal day, Rip had scrambled to one of the highest parts of the Catskill mountains.

LESSON III.

As he was about to descend he heard a voice from a distance calling, "Rip Van Winkle! Rip Van Winkle!"

LESSON IV.

He looked around, but could see nothing but a crow winging its solitary flight across the mountain. He thought his fancy must have deceived him, and turned again to descend, when he heard the same cry ring through the still evening air. "Rip Van Winkle! Rip Van Winkle!"

Eleventh Week.

LESSON I.

Rip perceived a strange figure slowly toiling up the rocks, and bending under the weight of something he carried on his back.

LESSON II.

He bore on his shoulders a stout keg that seemed full of liquor, and made signs for Rip to approach and assist him with the load.

LESSON III.

As they ascended, Rip every now and then heard long rolling peals, like distant thunder, that seemed to issue out of a deep cleft between lofty rocks.

LESSON IV.

During the whole time, Rip and his companion had labored on in silence.

On entering a hollow, new objects of wonder presented themselves. On a level spot in the centre was a company of odd looking persons playing at nine-pins.

Twelfth Week.

LESSON I.

There was one who seemed to be the commander. He was a stout old gentleman, with a weather-beaten countenance.

LESSON II.

He wore a laced doublet, broad belt, high crowned hat and feather, red stockings, and high heeled shoes, with roses in them.

LESSON III.

On waking, he found himself on the green knoll from whence he had first seen the old man of the glen.

LESSON IV.

He rubbed his eyes. It was a bright sunny morning. The birds were hopping, and twittering among the bushes, and the eagle was wheeling aloft, and breasting the pure mountain breeze.

"Surely," thought Rip, "I have not slept here all night."

Thirteenth Week.

LESSON I.

He looked round for his gun, but in place of the clean well-oiled fowling-piece, he found an old fire-lock lying by him the barrel incrusted with rust, the lock falling off, and the stock worm-eaten.

LESSON II.

As he rose to walk, he found himself

stiff in the joints and wanting in his usual activity. "These mountain beds do not agree with me," thought Rip.

LESSON III.

As he approached the village he met a number of people, but none of whom he knew, which somewhat surprised him.

LESSON IV.

Some old gentlemen asked him what brought him there.

"Alas! gentlemen," cried Rip, somewhat dismayed, "I am a poor, quiet man, a native of the place, and a loyal subject of the King."

"A tory! a tory! a spy! a refugee! hustle him! away with him!" burst forth from the bystanders.

Fourteenth Week.

LESSON I.

The poor man humbly assured them that he meant no harm, but merely came there in search of some of his neighbors.

LESSON II.

Rip's heart died away at hearing of these sad changes in his home and friends, and finding himself thus alone in the world.

LESSON III.

Every answer puzzled him, too, by treating of such enormous lapses of time and of matters which he could not understand.

LESSON IV.

He had no courage to ask after any more friends, but cried out in despair, "Does nobody here know Rip Van Winkle?"

"Oh, Rip Van Winkle!" cried two or three.

Fifteenth Week.

LESSON I.

One by one the sands are flowing,
One by one the moments fall;
Some are coming, some are going;
Do not strive to grasp them all.

LESSON II.

One by one thy duties wait thee,
Let they whole strength go to each;
Let no further dreams elate thee,
Learn thou first what these can teach.

LESSON III.

One by one (bright gifts from Heaven).
Joys are sent thee here below;
Take them readily when given,
Ready, too to let them go.

LESSON IV.

One by one thy griefs shall meet thee,
Do not fear an armed band;
One will fade as others greet thee;
Shadows passing through the land.

Sixteenth Week.

LESSON I.

The nation depends not on the wisdom of its senators, not on the vigilance of its police, not on the strong arm of its standing armies; but on the loyalty of a united people.

LESSON II.

"Will you walk into my parlor?"
Said the spider to the fly;
"'Tis the prettiest little parlor
That ever you did spy."

LESSON III.

"Oh no, no," said the little fly;
"To ask me is in vain,
For who goes up your winding stair
Can ne'er come down again."

LESSON IV.

A farmer who lay on his deathbed called his sons to him and said, "My sons, I have a treasure to leave you, but it is hid somewhere on this farm, within a foot of the surface. You will find it if you dig carefully."

Seventeenth Week.

Lesson I, II, III, IV, page 40, 6th Year Approved Selections.

First four stanzas of "The Builders."

Eighteenth Week.

LESSON I.

Be just and fear not; let all the ends thou aimest at, be thy country's, thy God's, and truth's.

LESSON II.

Life is the best possible thing we can make of it.

LESSON III.

"To climb steep hills requires slow pace at first," said Shakespeare.

LESSON IV.

First stanza of The American Flag page 109, 6th Year Approved Selections.

Nineteenth Week.

LESSON I.

First stanza of Home Sweet Home, page 104, 6th Year Approved Selections.

LESSON II.

Second stanza.

LESSON III.

Third stanza.

LESSON IV.

Page 43, 6th Year Approved Selections, "Thinking."

Twentieth Week.

6th Year Approved Selections, page 19, "Song."

6A MEMORY SELECTIONS.

By Alice M. Fyfe.

FALL TERM.

First Week.

THE VALUE OF A FRIEND.

So long as we love we serve, so long as we are loved by others I would almost say that we are indispensable, and no man is useless while he has a friend.

—*Robert Louis Stevenson.*

Second Week.

Orpheus, 1st stanza.

Third Week.

Orpheus, 2nd stanza.

Fourth Week.

October, 1st and 2nd stanzas.

Fifth Week.

October, 3rd and 4th stanzas.

Sixth Week.

October, 5th stanza.

Seventh Week.

October, 6th and 7th stanzas.

Eighth Week.

Prose—Conscience.

6th Year Memory Selections, page 79.

Ninth Week.

Abou Ben Adhem, 1st half.

Tenth Week.

Abou Ben Adhem, 2nd half.

Eleventh Week.

Prose.

I am not bound to win, but I am bound to be true. I am not bound to succeed, but I am bound to live up to what light I have. I must stand with anybody that stands right; stand with him while he is right and part with him when he goes wrong.

—*Abraham Lincoln.*

Twelfth Week.

The First Snowfall, 1st stanza.

Thirteenth Week.
The First Snowfall, 2nd stanza.

Fourteenth Week.
The First Snowfall, 3rd stanza.

Fifteenth Week.
The First Snowfall, 4th stanza.

Sixteenth Week.
The First Snowfall, 5th stanza.

Seventeenth Week.
The First Snowfall, 6th stanza.

Eighteenth Week.
The First Snowfall, 7th stanza.

Nineteenth Week.
The First Snowfall, 8th stanza.

Twentieth Week.
The First Snowfall, conclusion.
Review Patriotic Songs during term.

MEMORY SELECTIONS.

SPRING TERM.

First Week.

Prose. THE VALUE OF A FRIEND.

So long as we love we serve, so long as we are loved by others I would almost say that we are indispensable; and no man is useless while he has a friend.

—*Robert Louis Stevenson.*

Second Week.
Abou Ben Adhem, 1st half.

Third Week.
Abou Ben Adhem, 2nd half.

Fourth Week.
Prose—Conscience (see Fall Term).

Fifth Week.
Song of Marion's Men, 3rd stanza.

Seventh Week.
Song of Marion's Men, 3rd stanza.

Eighth Week.
Song of Marion's Men, 4th stanza.

Ninth Week.
Song of Marion's Men, 3rd stanza.

Tenth Week.

Prose.

I am not bound to win, but I am bound to be true. I am not bound to succeed, but I am bound to live up to what light I have. I must stand with anybody that stands right; stand with him while he is right and part with him when he goes wrong.

—*Abraham Lincoln.*

Eleventh Week.
Orpheus, 1st stanza.

Twelfth Week.
Orpheus, 2nd stanza.

Thirteenth Week.
First 6 Sayings of Benjamin Franklin, page 75.

Fourteenth Week.
Remainder of Franklin's Sayings, page 75.

Fifteenth Week.
Nobility, 1st and 2nd stanzas.

Sixteenth Week.
Nobility, 3rd and 4th stanzas.

Seventeenth Week.
Nobility, 5th and 6th stanzas.

Eighteenth Week.

Nobility, 7th and 8th stanzas.

Nineteenth Week.

Nobility, 9th and 10th stanzas.

Twentieth Week.

Prose—Thinking, page 43, 6th Year Approved Selections.

Review Patriotic Songs during the term.

6A HISTORY.

By Azubah N. Farley.

First Week.

LESSON I.

Review of the French and Indian War. Causes—leaders—principal events —results.

LESSON II.

Condition of the colonies after the French and Indian War.

Albany Plan of Union.

LESSON III.

Trouble between England and the Colonists.

1. Causes.

(1) England's Colonial Policy. That a colony was for purposes of trade and existed for enriching the mother country.

(2) Colonists' love for freedom and objection to England's policy.

LESSON IV.

Committees of Correspondence.

(1) Samuel Adams planned for the organization of a committee in each town in Massachusetts.

(2) Dabney Carr of Virginia provided for committee in each colony in order to connect the colonies by correspondence.

First Continental Congress met at Philadelphia, Sept. 5, 1774.

Petitioned England for a redress of grievances.

Second Week.

LESSON I.

Causes of Revolution.

General or remote—

1. Unjust treatment of colonists.

2. Navigation Laws. Colonists could not carry on commerce with any country except Great Britain.

Goods must be shipped from one colony to another in English ships only.

3. Restrictions on manufactures.

Manufacturing forbidden.

All raw material must be sent to England.

LESSON II.

Causes of Revolution as enumerated in the Declaration of Independence, or immediate causes.

1. Taxation without Representation. A direct violation of the charter granted to the London and Plymouth Companies.

2. Writs of Assistance. These gave an officer the right to enter a house and search for smuggled goods. Why so much smuggling at this time? James Otis opposed in an eloquent speech.

LESSON III.

3. Townsend Act. A law made by Parliament which laid a tax on glass, paint, paper, and tea.

4. Stamp Act, 1765. A law made by Parliament by which the colonists were to place English stamps on all legal documents, newspapers, etc. This was to pay the expenses of the French and Indian War. Opposed by Samuel Adams, Patrick Henry, and William Pitt. Repealed in 1776.

5. Mutiny Act. Two regiments were sent to Boston to be quartered by colonists.

LESSON IV.

6. Boston Massacre, 1770. In a quarrel between some soldiers and some

townspeople the soldiers fired, killing five and wounding several. England withdrew the soldiers.

7. Boston Tea Party. Three shiploads of tea sent to Boston were thrown overboard by men disguised as Indians.

8. Boston Port Bill. An Act by Parliament to close the port of Boston until the people should pay for the tea destroyed.

Third Week.

LESSON I.

Beginnings of War operations about Boston (1775). Advantages and disadvantages of each side.

LEXINGTON AND CONCORD.

1. Cause. British Commander Gage sent 800 men to seize military stores at Concord and to arrest Hancock and Adams at Lexington.

2. Result. Skirmish at Lexington. American lost seven. British seized stores, were attacked and lost 300 men. Failed to take Hancock and Adams.

3. Minute Men—Paul Revere.

LESSON II.

Crown Point and Ticonderoga captured by Ethan Allen and the Green Mountain Boys.

LESSON III.

Second Continental Congress.

1. Met at Philadelphia, May 10, 1775.

2. Chose John Hancock, president.

3. Voted to raise an army of 20,000 men.

4. Chose George Washington commander-in-chief. He took charge at Cambridge, July 3.

LESSON IV.

BUNKER HILL. 1775.

1. Cause. British intended to fortify Bunker Hill and so hold Boston.

Americans fortified Breeds hill, which commanded Boston.

2. Result. After two repulses British successful, American anmmunition gave out. Gen. Warren killed.

3. Effect. Americans encouraged.

Fourth Week.

LESSON I.

EVACUATION OF BOSTON.

American fortified Dorchester Heights south of Boston, causing British withdrawal to Halifax.

Tories—Map of Boston Harbor, Fiske.

LESSON II.

DECLARATION OF INDEPENDENCE, JULY 4, 1776.

1. Resolution presented by Henry Lee of Virginia.

2. Written by Thomas Jefferson.

3. Signed by John Hancock and other members of the Continental Congress.

LESSON III.

ENGLISH PLANS FOR CARRYING ON THE WAR.

Attempt to separate colonists by commanding the Hudson.

American defences of New York.

1. Brooklyn Heights fortified.

2. Forts Washington and Lee north of the city.

Map of the harbor drawn and position of each army shown.

LESSON IV.

ATTACK. Made by Howe where Prospect Park now is, 1776.

Result.

1. Howe captured Sullivan with 1000 men.

2. While Howe waited for Lord Howe with the fleet to reinforce him, Washington with the army under Putnam left Brooklyn Heights for Harlem Heights.

(Nathan Hale hanged as a spy.)

Fifth Week.

LESSON I.

HARLEM HEIGHTS.

Americans withdrew to White Plains then to Northcastle Heights. Gen. Lee left in charge.

Forts Washington and Lee captured by British.

WASHINGTON'S RETREAT ACROSS NEW JERSEY.

1. Object. To hold Philadelphia against British. (Use map.)

2. Lee. Next in command to Washington. Disobeyed orders to join the main army, was captured by the British, turned traitor, gave Washington's plans to Howe.

3. Washington's position. Having crossed the Delaware, he encamped opposite Trenton.

LESSON II.

TRENTON, 1776. Washington crossed the Delaware, surprised the British at Trenton, taking 1000 prisoners. Hessians.

PRINCETON. Cornwallis marched to capture Washington who out-flanked him and defeated his rear guard at Princeton.

Americans held Philadelphia and gained control of New Jersey.

LESSON III.

AIDS TO THP AMERICAN CAUSE.

1. Robert Morris. During the winter of 1777, which Washington spent at Morristown, Robert Morris raised $50,000 to pay the soldiers.

2. Lafayette, Baron Stuben, De Kalb, Counts Pulaski and Kosciusko.

LESSON III.

STRUGGLE FOR PHILADELPHIA.

1. Bradywine.

(a) Howe's plan. To march against Philadelphia for the south.

(b) Attack. Made at Chad's Ford by Washington who had marched south.

(c) Result. Washington defeated. Howe entered Philadelphia.

2. Germantown.

(a) British position encamped at Germantown.

(b) Attack by Washington—unsuccessful.

(c) Result. British held Philadelphia. Washington went into winter quarters at Valley Forge.

Sixth Week.

LESSON I.

BURGOYNE'S EXPEDITION.

1. Plan of British. To separate the colonists by taking New York State.

Burgoyne to march from Canada to Albany by way of Lake Champlain.

St. Leger to march from Oswego to Albany.

Howe to march from New York to Albany.

2. Failure of plan.

Howe was delayed at Philadelphia by Washington.

St. Leger reached Fort Stanwix and made an attack. Arnold was sent against him and he retreated.

LESSON II.

BURGOYNE.

Bennington. Burgoyne sent a detachment to take the American supplies here. Col. Stark captured nearly all the soldiers.

Saratoga. Schuyler removed and Gates placed in command of American army. British defeated in two battles near Saratoga. Bemis Heights.

Surrender of Burgoyne, 1777.

French Alliance.

LESSON III.

RESULTS.

The turning point of the war.

Greatly encouraged the Americans.

Secured the aid of France for America.

EVACUATION OF PHILADELPHIA.

1. British retreat to New York when they hear of the approach of the French fleet.

2. Monmouth—Washington pursued the British and attacked them here—unsuccessful, owing to Lee's disobedience. British reach New York with much loss.

LESSON IV.

REVIEW OF THE CHIEF TOPICS.

Seventh Week.

LESSON I.

CLARKE'S CAMPAIGN, 1778.

Object—route—result.

Stony Point. 1779.

1. Importance—British commanding Connecticut.

2. Capture—Anthony Wayne.

LESSON II.

Campaign against Indians.

1. Cause. Iroquois under British leaders had done much damage, especially in the Wyoming Valley.

2. Result. Sullivan went against them and destroyed their power.

LESSON III.

INJURY TO BRITISH COMMERCE.

1. American Privateers. Cause injury to British commerce.

2. Paul Jones. Threatened British ports. With his Bon Homme Richard captured the British Serapis.

ARNOLD'S TREASON, 1780.

1. Command at Philadelphia. Had married a Tory lady and lived extravagantly.

2. Court martial. Was tried for dishonesty.

3. Command at West Point turned traitor.

4. Andre.

5. Later life.

Eighth Week.

LESSON I.

SECOND PLAN OF THE BRITISH.

Attempt to cut off colonies from the South, 1780-1781.

COMMANDERS IN THE SOUTH.

1. American. Lincoln, Gates, Greene, Morgan.

2. British. Clinton, Cornwallis, Tarleton, Arnold.

GEORGIA.

1. Savannah. Held by British since 1778. Attacked by Lincoln and the French fleet. Repulsed.

British control Georgia.

SOUTH CAROLINA.

1. Charleston, held by the Americans under Lincoln. Attacked and taken by the British under Clinton.

LESSON II.

Camden. Attack by Gates. Unsuccessful. British control South Carolina.

NORTH CAROLINA.

1. King's Mountain.

2. Cowpens.

3. Guilford Court House. Cornwallis defeated and withdrew to Wilmington.

Marion, Sumter, Lee, Pickins with only a few men did much to defeat the British in the South.

LESSON III.

YORKTOWN.

1. Object of Cornwallis. To get control of Virginia.

2. Position. To communicate with the English fleet.

3. Siege. Washington, Lafayette, and Rochambeau on land, and the French fleet surrounded Cornwallis.

4. Result. After three weeks Cornwallis surrendered, Oct. 19, 1781. This put an end to the war.

TREATY OF PEACE.

1. Commissioners—Benjamin Franklin, John Jay, John Adams.

2. Signed at Paris, 1783.

3. Terms. Colonies an independent nation. Tories paid.

4. Extent. From the Atlantic to the Mississippi, with the exception of Florida and Louisiana.

Territory, which was held by Spain.

Ninth Week.

LESSON I.

GOVERNMENT.

1. Continental Congress the ruling body.

2. Articles of Confederation the supreme law.

DEFECTS OF ARTICLES OF CONFEDERATION.

1. Congress consisted of one house. This represented the states, not the people.

2. There was no executive body, therefore no power to collect taxes, raise an army, nor command in any way.

3. There was no judicial body.

LESSON II.

DIFFICULTIES OF THE NEW NATION.

1. England enforced her restrictions upon our trade. Congress had no power to resist.

2. Rivalries among the states.

3. Congress in great need of money.

4. Great business depression.

5. States issued paper promises which were of little value.

6. (Shay's Rebellion)?

LESSON III.

ORDINANCE OF 1787.

1. Most important bill passed by the Confederation.

2. Provided for the Northwest Territory. Division into five states, Wisconsin, Michigan, Illinois, Indiana, Ohio.

3. Education to be encouraged, religious, freedom upheld, slavery prohibited.

LESSON IV.

CONSTITUTIONAL CONVENTION.

1. Purpose. To revise the Articles of Confederation.

2. Place and time. Philadelphia, May 25, 1787.

3. Members. Washington, president, Madison, Hamilton, Jefferson, Marshall, and delegates from all states except Rhode Island.

4. Result. The United States Constitution.

5. Ratification of Constitution. Must be ratified by nine states. Ninth in 1789.

6. Preamble. (Learned.)

Comparison of Constitution and Articles of Confederation in organization, taxing power, and control of commerce.

Tenth Week.

LESSON I.

REVIEW ALL FACTS TAUGHT.

LESSON II.

THE YOUNG REPUBLIC. WASHINGTON'S ADMINISTRATION, 1787-1797.

1. Cabinet.

Thomas Jefferson—Secretary of State.

Alexander Hamilton—Secretary of Treasury.

Henry Knox—Secretary of War.

Edmund Randolph—Attorney Gen.

John Jay—Chief Justice.

2. Hamilton's Financial Policy.

3. Tariff 1787.

4. Citizen Genet. French Minister to United States.

(a) French Revolution led to war between France and England.

(b) Washington issued a proclamation of neutrality.

(c) Genet attempted to fit out privateers in defiance of Washington.

(d) Genet recalled at Washington's request.

LESSON III.

5. Invention of Cotton Gin.

6. Jay's Treaty.

(a) Cause. Troubles with England in regard to the treaty at the close of the Rev.

England still held western forts:

Detroit, Niagara, Oswego.

England searched American vessels impressed seamen, and interfered with commerce.

America had not paid debts to English merchants.

(b) Result. Treaty settled all except impressment of seamen. (Anti-Federalists much dissatisfied.)

7. Change of capital from New York to Philadelphia.

LESSON IV.

ADAMS (1797-1801).

1. Trouble with France.

(a) Cause: French angry because of Jay Treaty, dismissed United States minister and began capturing merchant vessels. French in K. Y. Z. papers suggested bribery as a means of securing peace.

(b) Result. Pinckney, one of the three United States envoys to France, answered, "Millions for defence but not one cent for tribute." Truxton captured two French vessels. An army was raised with Washington in command.

(c) Peace. Adams sent envoys to France and peace was made.

Eleventh Week.

LESSON I.

2. Alien and Sedition Laws.

(a) Cause. Secret emissaries of France had caused much trouble in the United States.

(b) Alien Law. President could banish from country any foreigner whom he deemed dangerous to the country and imprison him should he return.

(c) Sedition Law. President could punish anyone who should publish anything false or malicious against the President or Congress.

(d) Results.

Virginia Resolutions drawn up by legislature declaring these laws unconstitutional.

Kentucky Resolutions. Any state had a right to nullify an act of Congress which was unconstitutional.

Neither law was enforced.

3. Capital changed from Philadelphia to Washington.

LESSON II.

JEFFERSON (1801-1809).

1. Purchase of Louisiana, 1803.

(a) Results.

Prevented France from planting colonies in the territory.

Prevented England from acquiring the territory from France.

Gave control of the Mississippi.

Strengthened the national government.

LESSON III.

2. Lewis and Clarke Expedition.

(a) Object to explore country to Pacific.

(b) Explorations. Found sources of Mississippi and Missouri explored Columbia and Platte, reached Pacific.

(c) Results.

Gave country knowledge of extent and wealth of Louisiana purchase.

(Gave basis for claiming Oregon country later.)

3. War with Tripoli.

LESSON IV.

Pirates in the Mediterranean were prevented from injuring commerce only by the payment of tribute, Tripoli demanded a large tribute.

Result. Jefferson sent a fleet which bombarded Tripoli for two years.

Treaty. Pirates forced to stop injuring American commerce. Tribute discontinued.

Thirteenth Week.

LESSON I.

Review facts previously taught.

LESSON II.

4. Trouble with England and France. Injury to American commerce.

(Orders in Council. By these England forbade neutral vessels to trade with France.)

(Napoleon's "Decrees." Napoleon forbade any neutral trade with England.)

Jefferson passed the Embargo Act. Forbade foreign vessels to enter and American vessels to leave United States ports. In force for fourteen months.

Non-Intercourse Act was substituted for Embargo Act. Allowed commerce with all countries except France and England.

LESSON III.

MADISON (1809-1817).

Review.

LESSON IV.

War of 1812 (1812-1815).

1. Causes.

(a) Injury to commerce by France and England.

(b) Impressment of American seamen by England.

(c) Napoleon's Breach of Faith with the United States. Napoleon agreed to resume commerce, but suddenly seized all American vessels in French ports. Therefore England continued to injure American commerce.

(d) Tecumseh's conspiracy. England was charged with exciting the northwestern Indians. Harrison sent against Tecumseh, conquered him on the Tippecanoe River. Their power was broken.

2. The American navy consisted of twelve well built war vessels. England 1000 vessels.

Fourteenth Week.

LESSON I.

3. American Plan. To gain Canada.

4. Detroit. Gen. Hull advanced from Detroit toward Canada. Gen. Brock met him with a force of Canadians and Indians. Hull was obliged to surrender Detroit and all of Canada.

5. Fort Dearborn (Chicago) captured by British.

LESSON II.

Naval Battles 1812.

(a) Constitution and Guerriere. In North Atlantic. American victory.

(b) Wasp and Frolic. Off coast of North Carolina. American victory.

(c) United States and Macedonian. Near the Madeira Islands. American victory.

LESSON III.

Review.

LESSON IV.

Review.

Fifteenth Week.

LESSON I.

Year 1813—Naval battles continued.

(d) Chesapeake and Shannon. Near Boston Harbor. British victory.

(e) Battle of Lake Erie. Perry built a fleet here and captured the English fleet sent against him.

Result. Gave Americans entire control of Lake Erie and saved the northwest.

LESSON II.

YEAR 1814.

Burning of Washington. British army marched against Washington from Chesapeake Bay, and burned nearly all the public buildings.

LESSON III.

Fort Henry. Bombarded by British in order to secure Baltimore. Unsuccessful. (Star Spangled Banner by Francis S. Key.)

LESSON IV.

Treaty of Peace—Signed in Ghent, December 25, 1814.

Sixteenth Week.

LESSON I.

YEAR 1815.

Battle of New Orleans. (News of the Treaty of Peace had not yet reached the United tSates.)

Cause. British wished to control the Mississippi.

Result. British defeated by Andrew Jackson with a loss of 2,000 men.

LESSON II.

RESULTS OF THE WAR.

1. Impressment of seamen stopped.

2. Showed superiority of American seamenship.

3. Compelled other nations to respect United States.

4. Led to the building of manufactories.

LESSON III.

REVIEW TROUBLE WITH ENGLAND AND FRANCE.

LESSON IV.

REVIEW WAR OF 1812.

Seventeenth Week.

REVIEW AMERICAN REV.

Causes.

Events of 1775, 1776, 1777.

Eighteenth and Nineteenth Weeks.

EVENTS OF 1778, 1779, 1789, 1781, 1783.

6A CIVICS.

By Azubah N. Farley.

NOTE.—For complete outline of these topics, see McLaury's ESSENTIALS OF AMERICAN HISTORY, pages 25 to 29 and 59 to 61 inclusive. Reprinted from the McEVOY MAGAZINE; price 25 cents.

NATIONAL GOVERNMENT.

First Week.

Three branches. Legislative, Executive and Judicial.

I. CONGRESS.

a. Two houses. Senate and House of Representatives.

b. Meetings. Each year first Monday in December.

c. Quorum. A majority of each House.

d. Adjournment. Neither can adjourn for more than three days without the consent of the other.

e. Power and duties. (A few learned.)

Lay and collect taxes.

Borrow money.

Regulate commerce.

Establish rules for naturalization.

Coin money and regulate its value.

Fix standard of weights and measures.

Provide punishment for counterfeiting.

Establish post offices and post roads.

Grant patents and copyrights.

Declare war.

Raise and support an army and navy.

Govern District of Columbia.

Admit new states and govern territories.

Make laws necessary for carrying out their duties.

Second Week.

I. SENATE.

1. Number of Senators. Two from each state.

2. Elected by state legislatures. Salary, $7,500.

3. Term. Six years. One third elected every two years.

4. Vacancies. Filled by legislatures of state in which vacancy occurs. Temporary appointment by governor.

Third Week.

II. Qualifications of Members.

At least thirty years of age.

A citizen of the United States for nine years.

An inhabitant of the state he represents.

Presiding Officer. Vice-president.

III. Duties. (Learn a few.)

Elects own officers, including presiding officer in absence of vice-president.

Elects vice-president if regular election fails.

Tries impeachment.

Votes on all bills.

Advises the president in regard to treaties and appointments of officers.

Fourth Week.

I. House of Representatives. Salary $7,500.

Number—One for about every 200,000 inhabitants.

Elected by the voters in the congressional districts of each state.

Term—Two years.

Salary—$7,500.

Vacancies. By special election called by governor of state in which vacancy occurs.

Fifth Week.

II. Qualifications.

At least 25 years of age.

A citizen of the United States for 7 years.

An inhabitant of the state he represents.

Presiding officer. Speaker elected by the House.

III. Duties.

Elects its own officers.

Elects president if regular election fails.

Has the power of impeachment.

Votes on all bills.

Originates all bills for raising revenue.

Sixth Week.

I. How a bill becomes a law. Three ways.

1. A bill, except revenue bills, may originate in either House.

If passed by that house it is sent to the other house.

If passed by the second house it is sent to the president.

If the president signs it it becomes a law.

Seventh Week.

2. Passes both houses as before and sent to the president.

If the president vetoes it, he sends it to the house in which it originated, stating his objections.

If again passed by both houses by a two-thirds vote, it becomes a law.

3. Passed by both houses, sent to the president. If he does not return it within ten days, it becomes a law.

Eighth Week.

I. Executive Department.

1. President.
2. Vice-President.
3. Cabinet.
4. Nine executive departments. (Learn the names of the men in office.)

Ninth Week.

1. President.

a. Elected.

At the regular elections each fourth year on the first Tuesday after the first Monday of November each state elects electors equal to its number of representatives in Congress.

On the second Monday of January these electors meet in their respective states and vote by ballot for president and by distinct ballots for vice-president. Lists of the votes are sent to the president o fthe senate.

On the second Wednesday of February both Houses of Congress meet together and count the votes. Theone who receives a majority of the votes for president is elected. The one who receives a majority of votes for vice-president is elected.

In case there is not a majority, the president is elected by the House of Representatives from the three highest candidates on the list. The vice-president is elected by the Senate from the two highest candidates on the list. Each state has only one vote.

(This is to be explained carefully to the children, but they are not expected to remember all of it.)

Tenth Week.

b. Term. Four years.

c. Vacancy. Vice-president, then by the Secretary of State, and then by the heads of the other departments in order.

d. Qualifications.

At least thirty-five years of age.

A citizen of the United States for fourteen years.

A natural born citizen.

Eleventh Week.

e. Duties. (Some to be learned.)

Chief executive of the nation.

Commander-in-chief of army and navy.

Grants reprieves and pardons.

Makes treaties with two-thirds vote of Senate.

Appoints ambassadors and members of the Supreme Court with two-thirds vote of the Senate.

Fills vacancies occurring while Congress is not in session.

Sends written message to Congress at each session.

Approves or vetoes bills.

f. Salary, $75,000 a year.

Twelfth Week.

VICE-PRESIDENT.

a. Elected (see 9th week).

b. Term. Four years.

c. Qualifications. Same as President. (See 10th week.)

d. Duties.

Presides over Senate.

Takes office of president if that is vacated.

e. Salary, $10,000 a year.

Thirteenth Week.

CABINET.

a. Number. Nine heads of executive departments.

b. Appointed. By President with the advice of the Senate.

c. Salary, $12,000 a year.

d. Duties.

Secretary of State. Attends to foreign affairs, corresponds with state governors, publishes laws passed by Congress.

Secretary of Treasury. Financial affairs.

Secretary of War. Military affairs.

Attorney General. President's legal adviser.

Postmaster General. Postal service.

Secretary of Navy. Naval affairs.

Secretary of the Interior. Public lands, pensions, patents, education, Indians, railroads.

Secretary of Agriculture. Agritural affairs. Weather Bureau.

Secretary of Commerce and Labor. Immigration, lighthouses, coast surveys, census.

Fourteenth Week.

The general purpose of the Executive Department as observed near or in the city.

1. The letter-carrier and the postoffice.

2. Harbors, light-houses, and life saving stations.

New York Harbor, Sandy Hook Light House; life saving stations, Rockaway.

3. The army and the navy. Brooklyn Navy Yard, West Point, Annapolis. Fort on Governors Islands, Fort Wadsworth on Staten Island, Fort Hamilton.

4. The customs department. The tug boats that carry United States customs inspectors out to the ships. The customs office in New York.

5. Immigration bureau. The vessels and passengers are inspected before any are allowed to land. Ellis Island. The inspectors look to see that only desirable people come to this country, and to see that no disease is brought to us.

6. Census. The people of the United States are counted and classified every ten years.

Fifteenth Week.

JUDICIAL DEPARTMENT.

a. Supreme Court.

b. Inferior Courts.

1. Circuit Court of Appeals.

2. Circuit Court.

3. District Court.

4. Court of Claims.

Sixteenth Week.

SUPREME COURT.

a. Number. One.

b. Members.

One Chief Justice and eight associate justices. Hold office during good behavior.

c. Duties—Cases.

1. Affecting ambassadors and public ministers.

2. Between states.

2. Cases appealed from Inferior Courts.

Seventeenth Week.

CIRCUIT COURT OF APPEALS.

a. Number. Nine. One in each judicial district.

b. Members.

One justice of Supreme Court.

Two circuit judges.

One district judge.

c. Duties. Relieves the Supreme Court.

Eighteenth Week.

CIRCUIT COURTS.

a. Number. Nine. One in each judicial district.

b. Members.

One justice of the Supreme Court.

One circuit judge.

One or two district judges.

c. Duties.

Cases of patent and copyright laws.

Cases of revenue laws.

Many civil and criminal cases.

Nineteenth Week.

DISTRICTS COURTS.

a. Number. One in each state. Large states may have two or three.

b. Members. One district judge in each.

c. Duties.

Cases of maritime affairs and of bankruptcy.

Twentieth Week.

COURT OF CLAIMS.

a. Number. One.

b. Members.

One chief justice.

Four associate justices.

c. Duties.

Cases against the United States.

All lessons should include the idea of what constitutes good citizenship. Duty of being well informed in regard to the working of the national government; of responding to calls for the defense of the country; of voting intelligently.

Tests for Grammar Grades

By District Superintendents and Others

These questions are published as bases for general review or special tests. Every question may be accepted as a pertinent exercise in drill, since the sets cover the essentials under the view-point of the supervising authorities in New York City.

SET I.

1. If 4 3/4 yds. cost $5 3/7, how much will 2 4/5 yds. cost?

Ans. $3.20.

2. Divide 12 millionths by 16 thousandths and multiply the quotient by .005.

Ans. .00000375.

3. Three men gained by speculation $2144. Of this sum the second received 2/5 as much as the first, and the third received 1/2 as much as the second. Share of each?

Ans. A, $1340; B, $536; C, $268.

4. Cost of 3457 lbs. of coal at $5.80 per ton?

Ans. $10.025.

5. A man spends 3/8 of his salary for board, 1/2 of the remainder for clothing, and 1/3 of what then remained for other expenses, and saved $200. Salary.

Ans. $960.

6. Bought 10 gals. of milk at $.03 1/4 a qt. Retailed it at $.03 1/2 per pt. Find % gained and the amount gained by the transaction.

Ans. 115 5/13% gained; $1.50 gain.

7. Bought 80 4/5 yds. of carpet @ $1.37 1/2 a yd., received discounts of 20% and 10%. Cost?

Ans. $79.99 1/5.

8. A man insured his house valued @ $12500 for 4/5 of its value @ $1.75 on $1000. Find the premium.

Ans. $17.50.

9. A tax of $9750 is to be raised in a township having a valuation of $650000. If Mr. B. is assessed for $5200, what are his taxes?

Ans. $78.

10. Two steamers start from the same port, one going North at the rate of 21 miles an hour for 4 hours and the other East 16 miles an hour. How far apart are they at the end of 4 hours?

Ans. 105.6 miles.

SET II.

1. A man left $1600 to be divided among his 3 sons in the proportion of 1, 2, 5. Share of each?

Ans. $200, $400, $1000.

2. A square field contains 2025 sq. rds. What is the length of the diagonal?

Ans. 63.63 rds.

3. What is the difference between 5% and 10% off of $500 and 10% and 5% off of $500.

Ans. No difference.

4. An insurance company carries $325,000 worth of insurance and pays $6 on every thousand per year. Cost.

Ans. $1950.

5. Write out a note with the following data:

Face $600.
Date Jan. 2, 1905.
Time 60 days.
Dis. Feb. 13, 1905.
Payee Wm. Brown.
Maker James Hyde.
Payable at the Lincoln National Bank.
Proceeds X.

6. Bought 500 lbs. of prunes and paid $45 for them. Sold 400 lbs. @ a gain of 33 1/3% and lost 50% on remainder.

How much did I gain or lose on the transaction?

Ans. $7.50 gain.

7. Mr. Brown borrowed $500 from Mr. Smith on July 1, 1903. How much is due Mr. Smith, March 4, 1906, at the legal rate of interest?

Ans. $580.25.

8. Cost to excavate a cellar 60×x50x9 at $50 a cubic yd.

Ans. $500.

9. A man can row across a lake 2 3/4 miles in 28 minutes. At the same rate how long will it take him to row the length of the lake, 8 1/4 miles?

Ans. 1 hour, 24 minutes.

10. How many sq. yds. of plastering in the walls and ceiling of a room 18x20 x9, allowing 14 sq. yds. for openings and baseboard?

Ans. 102 sq. yds.

SET III.

1. (a) Write an example of the following (a) integer, (b) mixed number (c) improper fraction, (d) denominate number, (e) perfect square.

1. (b) Draw a (a) rectangle, (b) parallelogram, (c) trapezoid, (d) angle of 90 deg., (e) diameter.

2. If the divisor is 3/4, the quotient 2/5, what is the dividend?

Ans. 3/10.

3. A rug 8 1/4 ft. by 10 1/2 ft., is placed on the floor of a room which is 14 ft. 6 in. long by 12 ft. wide. Find the area of the uncovered part.

Ans. 87 3/8 sq. ft.

4. An automobile ran 48 3/4 miles on Monday and 2 2/3 times as far on Tuesday. How far did it run in both days?

Ans. 178 3/4 mi.

5. Find the net cost of a grand piano listed at $1000 on which there are allowed discounts of 20% and 5 % for cash.

Ans. $646.

6. At 10 a. m. a train having an average speed of 36 miles per hour, left New York for Chicago. At 2 p. m. an express train having a speed of a mile a minute leaves this city on the same line. When will the second train overtake the first?

Ans. 8 p. m.

7. On Aug. 19, 1907, I borrowed $1200 with interest at 4% per annum. For how much did I draw my check to-day to settle the debt? (Given June 4, 1909.)

Ans. $1286.

8. An agent collected 30% of a debt of $4800 and charged me 7 1/2% commission. What amount will I receive?

Ans. $108 commission; $1332 received.

9. You bought of R. H. Macy & Co., the following, 12 1/2 yds. silk @ $1.20; 20 doz. handkerchiefs @ $2.95 a doz.; 6 1/8 yds. lace @ 1 3/5 a yd., and 1 umbrella @ $9.98. Make out and receipt bill..

10. In a school 400 boys and 350 girls there were 24 boys and 28 girls absent yesterday. Which had the better per cent of attendance?

Ans. Boys were 3% better.

11. Find the value of a triangular field whose base is 22 ft. 8 in. and altitude 16 ft. 9 in. @ $16 a sq. yd.

Ans. $337.48.

12. If 7 hats and 3 coats cost $13 and 3 hats and 5 coats cost the same amount, find cost of each.

Ans. $1 for hats; $2 for coats.

SET IV.

1. (a) From four hundred six and three hundred seventy-five thousandths take two hundred thirty-seven and four

hundred sixty-two hundred thousandths.
Ans. 169.37038.

1. (b) Multiply 42.075 by 13.33 1/3.
Ans. 561.

2. (a) Divide .072 by 2400.
Ans. .00003.

2. (b) Reduce to simple form

$$\frac{1/2 - 3/7}{4/5 - 2/3}$$

Ans. 15/28.

3. A lb. of tea lasted a man and wife three months, and the wife alone 4 months. How long would it last the man alone?
Ans. 12 months.

4. Find the amount of $2500 from Nov. 16, 1904, to Jan. 1, 1906, @ 4%.
Ans. $2612.50.

5. Divide $6000 between A and B, so that A shall have 3 times as much as B.
Ans. A, $4500; B, $1500.

6. I sold my horse for $240 and gained $40 by so doing. What per cent would I have gained if I had sold the horse for $400?
Ans. 100%.

7. The following note is discounted Mar. 1, 1906, @ 6%. Find the proceeds.

$750 New York, Feb. 17, 1906.

Sixty days after date I promise to pay to John Smith or order

At the Fifth National Bank,

seven hundred fifty ———— Dollars for value reecived.

Due Apr. 18, 1906 Wm. S. Young.

Dis. Mar. 1, 1906

Ans. $744, proceeds.

8. A piano is listed @ $600 but the discounts to the trade are 40 and 20 Net price?
Ans. $288.

9. Ten words are dictated to a class of 40 boys. The total number of misspelled words was 17. Find the per cent of the words spelled correctly.
Ans. 95 3/4%.

10. Make a bill as per sample in Set III, No. 9.

SET V.

1. What is the interest of $1245 from Jan. 4, 1901, to July 7, 1905?
Ans. $336.77.

2. What per cent of 4 gals., 3 qts., 1 pt., is 2 gal., 1 qt., 1pt.?
Ans. 48 28/39%.

3. Mr. Brown's tax bill was $37.80 at the rate of .004 1/2 on the dollar. At what amount was his property assessed?
Ans. $8400.

4. If 8 yds. of muslin 1 1/4 yds. wide cost $1.25, what will 10 yds. of the same quality cost if it is 1 1/8 yds. wide?
Ans. $1.40.

5. A rectangle is 128 inches long and 32 inches wide. What is the length of the square containing the same amount of surface?
Ans. 5 ft. 4 in.

6. The longitude of New York is 74 degs. 1 min. W. and of Berlin 10 degs. 15 min. 20 sec. E. When it is 12 o'clock noon in New York, what time is it in Berlin?
Ans. 37 min. 5 1/2 sec. past 5 p. m.

7. The list price of a certain book is $1.75. The discounts to the trade are 40 and 10%. Find the price of 4 doz. books to be paid for on delivery.
Ans. $45.36.

8. How many bbls. of flour @ $7.50 a bbl. can I buy for $550.80, if I purchase through an agent who charges 2% commission?
Ans. 72 bbls.

9. Find the exact equivalent in sterling of $35.50.
Ans. 7 pounds, 5 shillings, 10 pence 2 farthings.

10. Find the cost of 5 3/8 yds. of silk @ $2.25 a yard.

Ans. $12.09.

SET VI.

1. Add 1/2, 1/3 of 1/4.

Ans. 1 11/12.

2. Add 5 tenths and 25 thousandths, multiply the sum by 15 ten-thousandths and divide the result by 5 millionths.

Ans. 157.5.

3. A tank 3 meters long, 75 centimeters in width, 18 decimeters in depth contains how many litres of water?

Ans. 4050 liters.

4. A profit of $6834 was divided among three partners, so that the second received 75% as much as the first, and the third 50% as much as the second. Share of each.

Ans. A $3216; B $2412; C $1206.

5. Find the interest on $495.75 from Jan. 10 to Sept. 1, 1906, @ 4%.

Ans. $12.72.

6. Find x and y:

$2X + 3Y = 37$

$X - 2Y = 8$

Ans. $x = 4; y = 8$.

7. An agent sold 1600 bu. of grain @ $.90 a bu. and sent his employer $1418.40 as the proceeds of the sale. Find the rate of commission.

Ans. 1 1/2%.

8. A cow is tied to a stake with a rope 17 1/2 ft. long. Over how many feet of surface can she graze?

Ans. 962.115 sq. ft.

9. A vat 1.5 meters long, 9 decimeters wide and 8 decimeters deep, if filled with water, how many kilograms will it weigh?

Ans. 1080 kilograms.

10. Discounts of 12 1/2% and 4% are allowed on a bill of $545. Find the net amount of the bill. What single rate of discount is equivalent to the two successive discounts?

Ans. $457.80 net amount; 16% single discount.

SET VII.

1. Simplify $\dfrac{2\ 1/8 - 5/9 \times 3/5}{4\ 7/9 - 8\ 1/3 \times 1/5}$

Ans. 129/224.

2. A man bought a farm of 320 acres. Find the cost @ $40 3/4 an acre.

Ans. $13040.

3. How many steps will a man take in walking a mile if each step is 2 2/3 ft. long?

Ans. 1980 steps.

4. Reduce 2/125 to a decimal.

Ans. .016.

5. Make out a receipted bill for the following as if sold to James Smith by yourself.

New York, April 24, 1907.

Mr. James Smith,

To Your Name, Dr.

16 lbs. Tea	@	$ .85	$13.60	
28 lbs. Coffee	@	.35	9.80	
16 yds. Linen	@	.62½	10.00	33.40

Received payment,

Your name.

6. Bought a house and lot for $7000 and sold the same at a loss of 6 1/2@ What was the sale price?

Ans. $6545.

7. A man lost $150 on an automobile which he sold for $2850. What per cent did he lose?

Ans. 5%.

8. Find the amount of $3700 for 4 yrs., 3 mos. @ 4%.

Ans. $4321.

32 inches wide. What is the lengths of

9. Indicate in the form of an equation the solution of the following: A field is 386 yds. 2 ft. long and 159 yds. wide. Find the area in acres. (Answer not required; pupil marked on proper expression of relation.)

Ans. $\left(\frac{386\ 2/3 \times 159}{30\ 1/4}\right) \div 160 =$

10. A company with $3000000 capital declares @ 5% dividend. What does a holder of 100 shares receive?

Ans. $500 dividend.

SET VIII.

1. Change 421 3/8, 909 7/20 and 735 11/16 to decimals and find their sum.

Ans. 2066.4125.

2. I bought the following bill:

40 1/2 yds. carpet @ $5 3/4.

48 1/4 yds. lining @ .08.

10 Rings @ 2.37.

If I am allowed 5% for cash payment, how much do I pay?

Ans. $247.41.

3. How many tons in a piece of granite 40 ft. long 4 ft. 3 in. wide and 2 ft. 8 in. thick if 1 cu. ft. weighs 200 lbs?

Ans. 45 1/3 tons.

4. On Jan. 18, 1905, I borrowed $720 with int. @ 4% per annum. For how much must I draw my check to settle my indebtedness on Aug. 3, 1906?

Ans. $764.40.

5. A square field contains 1398.76 sq. yds. Cost of fencing the field @ $.10 per linear yd.?

Ans. $14.96.

6. By working 7 1/2 hrs. a day a carpenter built a fence in 5 1/3 days. How many hrs. a day must he work to build a similar one in 4 2/3 days?

Ans. 8 4/7 hrs.

7. A piano listed @ $600 is bought at 20% and 10% off. If it is sold for $540 find the gain or loss per cent.

Ans. 25% gain.

8. Find the proceeds of a note for $1000 drawn Feb. 14, 1907, for 60 days and discounted on March 27, 1907, @ 5%.

Ans. $997.36.

9. In a school room there are 35 pupils and a teacher. If the room is 30 ft. long, 20 wide, and 15 ft. high, how many cubic feet of air space has each person?

Ans. 250 cu. ft.

10. (a) ft. in a mile=5280.

(b) Grains in 1 lb. Avoir.=7000 gr.

(c) Weight of 1 cubic ft. of water =1000 oz. or 62 1/2 lbs.

(d) Length of a metre=39.37 inches.

(e) Length of 1 kilometre=5/8 of a mile.

(f) Value of 1 Pound Sterling= $4.8665.

(g) Value of 10 francs=$1.93.

(h) How many in a gross? 144.

(i) Number of sheets of paper in a quire=24 sheets.

(j) Number of qts. in 10 litres? 10.6 qts. .908 dry qts.

SET IX.

1. Find the difference between 10 1/2 plus 19 1/2 — (1/6 of 12 1/2 × 3/5) and 2.65.

Ans. 5.6.

2. Change to decimal form and add 4 7/8, 9 1/25, 16 4/500, 21 1/80.

Ans. 79.9455.

3. A man sold goods at a gain of 12 1/2% and invested the proceeds and sold at an advance of 8% by selling for $10,-125. What was the original capital?

Ans. $8,333 1/3.

4. At what rate per cent will $1150 in 11 mos. 15 days amount to $1249.18 3/4?

Ans. 9%.

5. The sum of $16500 was divided among 3 partners in such a way that the second was 1/2 greater than the first and 1/2 of the first was 1/6 of the third. Share of each.

Ans. A $3000; B $4500; C $9000.

6. A man who owes $27500 fails in business and his assets are $11195. The expense of settling was $525. What will a man receive who has a claim of $3600?

Ans. $1396.80.

7. A tank is 4 ft. long, 3 ft. wide and 11 inches deep. If it be 3/4 full, find the value of oil contained therein @ 10c per gal.

Ans. $6.17.

8. A town desires to raise $35200 on an assessed valuation of $8800000 with which to construct a school building. If Mr. Jones is assessed for $1650, find his tax.

Ans. $6.60.

9. Goods valued @ $34400 are insured for 7/8 of their value. Find the premium at $.40 per $100.

Ans. $120.40.

10. A square field contains 15376 sq. yds. Find the diagonal distance of the field.

Ans. 175.36 yds.

SET X.

1. John Brown bought of Sloan & Co. the following bill of goods 32 yds. Brussel's carpet @ 1.87 1/2.

24 stair rods @ .16 1/4.

36 yds. lining @ .66 2/3.

Find net bill if 5% is allowed for cash payment.

Ans. $83.505.

2. 2 1/ 3 × 4 4/5 — 2/5 + 3/4 × (5/3 — 3/5) = ?

Ans. 11 3/5.

3. A tank 20 ft. long, 11 ft. wide and 7 ft. high is 3/4 full. Find the value of oil in it @ $.10 per gal.

Ans. $864.

4. Bought a house for $6400 and made repairs amounting to 37 1/2% of the cost. If the house is now sold for $11,000, what was per cent gain or loss?

Ans. 25% gain.

5. An agent was employed to collect a debt of $4,000. He collects 80% of the bill and charged me 6 1/4% commission. What amount do I receive?

Ans. $3000.

6. (a) How many degrees in 2 right angles?

(b) Draw an acute angle.

(c) Draw an isosceles triangle.

(d) Draw a trapezoid.

(e) What is a protractor?

7. Write in Roman 1907, 1898, 20013, 1000702, 1620, 1492.

8. Simplify $\frac{3\ 1/2+2\ 1/3-1\ 1/4}{3/2\times 10/3} \div 1.373$.

Ans. 2/3.

9. Brussels 3/4 yd. wide. Ingrain 1 yd. wide. Cost to carpet a room 19 x 20. Carpet 5/8 yd. wide @ $1.25 a yd.

Ans. $91.67.

10. I paid $25 for linoleum @ $1.25 sq. yd. The length of the floor was 15 ft. What was its width?

Ans. 4 yds.

N. B. To Be Studied.

1 Metre = 39.37 inches.

1 Liter = 1 qt. dry or liquid 1.06 qts.

1 kilometer = 5/8 of a mile.

1 kilogram = 1 1/5 lbs. Avoir.

5c. Nickel known as the metric coin.

Diam. = 2 cm.

Thickness = 2mm.

Weight = 5 Grams.

6. *Safe ways of sending money.*

Checks, Draft, Registered Letter, Post Office Order, Telegraph and Express.

SET XI.

1. On April 16, 1908, a 90 day note was drawn for $2400. If it is discounted @ 4% to-day, June 2, find the proceeds.

Ans. $2388.53.

2. Find X and Y.

2. Find X and y:

of $3X + 5Y = 21$

$5X + 2Y = 16$

Ans. $X = 2$; $Y = 3$.

3. Find the value of a rectangular field 360 ft. long, 121 ft. wide, @ $80 an acre.

Ans. $80.

4. (a) What is the shortest way of mul. a decimal by 100?

(b) What is the shortest way of div. a decimal by 100?

(c) How do you divide 33 1/3 the shortest way?

(d) Write the next perfect square larger than 100.

(e) Give the exact no. of cubic inches in a bus. 2150.42.

(f) How many more grains in 1 lb. Avoir. than in 1 lb. Troy?

(g) How much longer is a metre than a yd.?

(h) One gallon is what % of a qt.?

(i) What effect is produced upon a fraction if we multiply the denominator?

(j) Write the following numbers: One billion, two hundred three millions, five thousand six.

5. From a field containing 50 acres, I sold a corner 100 rds. long, and 40 rds. wide. What % remained?

Ans. 50%.

6. Find the contents in bus. of a bin. 8 ft. x 4 ft. x 6 ft.

Ans. 154 2/7 bus.

7. A merchant bought goods for $1125. He sold 1/2 at an advance of 25%, 2/5 at an advance of 12 1/2% and the remainder @ 1/2 of its cost. What was his profit?

Ans. $140.63.

8. What will it cost to cement a cellar 36 ft. long, 23 ft. wide @ $.96 a sq. yd.?

Ans. $88.32.

9. How much will it cost to buy paper for a room 16 x 20 x 10, paper 24 inches wide, 8 yds. to the roll, @ $.50 per roll?

SET XII.

1. Add:

916738
892654
491673
389265
89123
549167
45678
738926

Ans. 4113224

2. (a) Divide $324 among A, B and C, giving B twice as much as A and C three times as much as B.

Ans. A $36; B $72; C $216.

2. (b) A farmer mixed 15 bus. of oats worth 40c a bushel with 5 bus. of corn worth 80c per bus. What is the mixture worth a bushel?

Ans. 50c a bushel.

3. (a) If 6/7 of a ton of hay is worth $12.60, how much is 2/3 of a ton worth?

Ans. $9.80.

3. (b) After spending .4 of my money and .66 2/3 of the remainder, I had $20 left. How much had I at first?

Ans. $100.

4. (a) If 37 1/2% of anything cost 15 cents, how much will 75% cost?

Ans. Twice as much, or $.30.

4. (b) $60 is 7/8 of the cost of a watch. The chain cost 1/2 as much as the watch. Find the cost of both together.

Ans. $102 6/7.

5. (a) A boy was born May 4th. 1897. His sister is 3 yrs. 9 mos. 24 days older. When was she born?

Ans. July 10, 1893.

5. (b) How many acres in a field 72 rds. wide and 96 rds. long?

Ans. 43 1/5 acres.

6. (a) You borrowed $300 Jan. 1, 1900, @ 6% from Mr. Thos. J. Monroe. You paid the debt with interest on May 6, 1902. Write the check which you gave at that time.

Ans. $342.25.

6. (b) If you owe $50 to a man in Chicago, tell me all the ways by which you can send the money to him. So far as you can, give the expense of each way.

Ans. Check—no expense (10c exchange).

Draft.

Registered letter.

Post office Order, 18 cents.

Telegraph, $1.50

Express, .25

7. A merchant buys an article which is listed at $40. He received discounts of 10% and 10% off for cash. He sells at 12 1/2% above list price. What is his gain?

Ans. $12.60.

8. A field is 48 rds. long. What will it cost to plow it at $3.20 an acre?

Ans. $86.40.

9. What is the distance on the floor between the opposite corners of your class room, if the room happens to be 40 ft. long and 30 ft. wide?

Ans. 50 ft.

10. Thirty shoemakers complete 600 pairs of shoes in 15 days; 7 shoemakers will complete 90 pairs in how many days?

Ans. 9 9/14 days.

SET XIII.

Arithmetic Test in Grade 8B.

Thursday, Jan. 6th, 1910, at 9:30 A. M.

Time, 75 minutes.

Note.—The pupil must take the first two and any eight of the remainder. For questions 2, 4, 8, 9, 10 answers receive full credit or none.

1. Express the following in figures: One million, forty thousand four; one millionth; one thousand two hundred fifty-six ten thousandths; ten and one hundredth.

2. Simplify: (2/3 + 2 1/2) divided by (7 1/4 — 1/3).

3. Add: 3 score; 6 dozen; 2 gross; 1 great gross; a quire; a ream.

4. A commission merchant received 500 bbl. of apples. He found that 15% were damaged. He sold the remainder at $4.50 per bbl. His commission was 5%; cartage, $25; storage, $10. After deducting his commission and expenses, how much money did he send to the shipper?

5. Find the interest, by the method of cancellation, of $16000 for 3 days at 6%.

6. Define or give the equivalent of the following: a litre; a kilometre; the thickness of a five-cent piece; a metre; an English pound sterling.

7. How many angles of a triangle can be right angles? How many obtuse angles can a triangle have? What is the sum of the acute angles of a right-angled triangle? What is the value of each of the angles of an equilateral triangle?

8. Find the accurate interest of $500, from July 1, 1909, to Dec. 15, 1909, at 5%.

9. Find the bank discount of a $400 note dated Jan. 1, 1909, time 3 months, discounted on Feb. 10, at 6%.

10. Find the value of X in the following:

$$X - \frac{X-3}{2} = 7$$

11. Find the perimeters of the following: An equilateral triangle whose base is 10 feet. A right-angled triangle whose two legs are respectively 6 ft. and 8 ft. in length. A circular garden whose

radius is 10 ft. A square whose diagonal is 10 ft. (approximate answer only). A city lot is 25 x 100 ft.

12. Write a bank check.

SET XIV.

TEST IN 8B ARITHMETIC.

Wednesday, Jan. 4th, 1911, at 9:30 A. M.
Time: 75 minutes.

Note.—Pupils will take the first two and any eight of the remainder. With the exception of No. 3, each problem has either 10 credits or none.

1. Add the following: Five ten-thousandths; five thousandths; five hundredths; five tenths; five; fifty; five hundred; five thousand.

2. Divide 2 1/2 by 10, multiply the quotient by .4, divide this product by .04.

3. Write out a 90 day note for $830 dated to-day, payable to John Jones or order at some bank in New York City.

(Deduct two (2) points for the omission of each of the following: date, place, time, amount in figures and words, "value received," "signature."

4. Discount the above note at 6% and find the proceeds.

5. Find the value of each of the following:

(a) 1280 lbs. sugar @ $4.25 per cwt.

(b) 3290 lbs. coal @ $6.80 per short ton.

6. The average register of a class during the week ending December 23, 1910, was 48. The attendance for the five days was 45, 46, 44, 45, 43 respectively. Find per cent of absence on register.

7. A man sold two houses for $7200 each, gaining on one 25% and losing on the other 25%. What did the two houses cost?

8. The sum of $340 is on interest @ 5% since April 23, 1907. Find amount due to-day.

9. Find the net cost of a piano marked $450 with trade discount of 3%, 8% and 10%.

10. From a field which is 60 rods square, there was sold 1200 square rods. Find value of remainder at $96 per acre.

11. A commission merchant sold 55 bbls. of apples @ $2.50 a bbl., charging 6c a bbl. for storage and commission of 5 1/2%. Find net proceeds of the sale.

12. (To be solved by algebra.) Three men have $2585 invested. The first has 1/3 as much as the third and the third has twice as much as the second. Find share of each.

13. If 15 burners, each consuming 6 cu. ft. of gas per hour, are used on an average of 4 hrs. per day for 365 days, what will be the gas bill for the year @ 80c. per thousand?

SET XV.

TEST IN 8B ARITHMETIC.

Thursday, June 1st, 1911, at 9:15 A. M.
Time: 75 Minutes.

(Solve any of the following problems.)

1. Find cost of excavating a cellar 30 ft. x 25 ft., and 9 ft. deep @ $1.20 per cubic yd.

2. (a) Find cost of 928 ft. of pine boards @ $45 per thousand feet.

(b) Find cost of 1650 lbs. of coal @ $6.80 per short ton.

3. Find cost of plastering the four sides of a room 25 ft. x 30 ft. and 12 1/2 ft. high; (make no allowances for doors or windows) @ $.35 per sq. yd.

4. Divide twenty-four millionths by four hundredths and multiply the quotient by sixteen thousandths.

5. Find capacity in gallons of milk can 10 inches in diameter and 30 inches in height.

6. Find area in acres of a field in form of a trapezoid whose parallel sides are 46

rods and 60 rods respectively and whose altitude is 40 rods.

7. A man left 1/3 of his estate to his wife; 1/2 of it to his two sons; 1/2 of the remainder to his nephew, who received $400. Find value of estate.

8. What is a rectangle, trapezoid, triangle, regular polygon, circle, rectangular prism, cylinder, pyramid, cone, sphere?

9. An article bought at 10% below the asking price was sold for $2400 at a gain of 33 1/3%. Find asking price.

10. An interest-bearing note of $1250 dated August 12, 1909, is to be paid today. Find amount due, rate of interest 5%. (Solve by 6% method.)

11. Name five ways of sending money.

12. A house worth $2240 is insured for 3/4 of its value @ $.35 a hundred for three years. Find the premium.

SET XVI.

1. Find area of square whose diagonal is 10 feet.

2. Find area in sq. yds. of a right triangle whose sides measure 24, 30 and 18 inches.

3. A commission merchant received 3% commission and $35.75 charges for buying a lot of goods. What was paid for the goods, if the commission charges and cost of goods amounted to $2945.50?

4. What number multiplied by 3/4 of 13 2/3 will give 1.

5. The area of a field is 6400 sq. yds. What are its dimensions if the width is 1/4 of the length.

6. A merchant sold cloth at $3.90 per yd. and thereby gained 20%. How much would he receive if he had sold it at a loss of 5%?

7. Use fewest figures possible.
   (a) Multiply 8.56 by 25
   (b) Divide 85.6 by .25
   (c) Multiply .856 by .25
   (d) Multiply 2472 by 125
   (e) Divide 2472 by 125

8. Sold 2 horses, $420 each, on one I gained 16 2/3%, on the other I lost 16 2/3%. Did I gain or lose on the transaction, and how much?

9. Two mechanics earn together $8 per day. One works 17 days and the other 23 days for which they receive together $168. Find daily wages of each.

10. Find value of X and y.

$$2X - 5y = 6$$
$$5X - 12y = 16$$

SET XVII.

8B ENGLISH.

I was born *free* as Caesar; so were you: (a)
We both have fed as well, and we can both (b)
Endúre the winter's cold as well as *he:* (c)
For once upon a raw and gusty day, (d)
(Caesar said to me)
The troubled *Tiber* chafing with her shores, (e)
Caesar said to me, "Darest thou, Cassius, now (f)
Leap in with me into this angry flood, (g)
And swim to yonder point? (h)

I.

1. Point out a dependent clause in line (a), and another in line (b). Classify them.

2. What does the phrase upon a raw . . . day modify?

3. Explain the construction of line (e)

4. Write the first and last word of a noun clause in the selection. Explain its use.

5. Point out an infinitive phrase and tell how it is used. (15)

II. Parse the underlined words. (15)

III. Give the following nouns in the possessive case, singular and plural—child, fairy, princess, father-in-law, chief. (10)

IV. Give a synopsis of the word, choose, in the 3rd person, singular, Indicative mode, active voice. (10)

V. Fill in the blanks with the correct form of who or whom, and give a reason for your choice:

(a) .....shall I send?

(b) A man entered,.....I was sure was the principal.

(c) .....did you think it was?

(d) .....did you think it to be?

(e) .....servest thou under? (10)

IV. Give examples of the figures, simile and metaphor. Explain. (10)

VII (a). Write a compound sentence, one of the members of which shall be complex.

(b) Write a sentence having noun clause as object.

(c) Write a sentence having noun clause as subject. (10)

VIII. (a) Write a sentence using *well* as a noun.

(b) Write a sentence using *well* as an adjective.

(e) Write a sentence using *well* as an adverb. (10)

IX. Write three sentences showing the use of *that* (a) as an adjective, (b) as a conjunction, (c) as a pronoun. (10)

SET XVIII.

8B HISTORY.

I. Name an important event connected with each of the following dates:

1607, 1789, 1844, 1820, 1863, 1803, 1910.

II. Name the acquisitions of territory to the U. S. obtained by purchase, giving date and nation from whom purchased. Name those obtained by conquest or treaty.

III. What caused Washington to deliver his "Farewell Address?"

Name two important points made in the address.

IV. State the chief differences between the principles of the

(a) Federalists and the Democratic-Republicans.

V. Name at least five important inventions and give as nearly as possible the date of each invention.

VI. (a) What was the cause of the Civil War of 1861-1865?

(b) What was the decisive battle of the war?

(c) When and where was the final surrender of the Confederate forces under Gen. Lee? Under Gen. Johnston?

(d) What two great questions were settled by the war?

VII. Who was president when Louisiana was purchased? Whom did he send to explore the territory purchased? Name five states which have been formed from this territory.

VIII. What territory was affected by the "Missouri Compromise?" In what way?

IX. Give the main thought expressed in the "Monroe Doctrine?"

What applications have been made of this doctrine?

X. Name and locate the two great naval battles of the "Spanish-American War."

Give the substance of the treaty of peace made at the close of the war.

SET XIX.

GRAMMAR.

January, 1909.

Near younder copse, where once the *garden* smiled, (a)

And still where many a *garden* flower grows wild (b)
There, where a few torn shrubs the place disclose, (c)
The village *preacher's* modest mansion rose. (d)

1. Tell kind of sentence. (4 credits)

2. Give number and kind of dependent clauses. (6)

3. Mention subject word and verb of principal clause. (4)

4. Mention subject word and verb of each of other clauses. (6)

5. Parse words underscored. (12)

6. Give principal parts of lie (to rest) go, fly, eat. (4)

7. Give plural of son-in-law, cupful, crisis, mouse. (4)

8. (a) Write a complex interrogative sentence. (5)

(b) Write a sentence containing an objective clause. (5)

SET XX.

NORMAL COLLEGE EXAMINATION IN ENGLISH JANUARY, 1909.

Next morning the Gypsy and Lollo, Miss Jesamine, Jackanapes and his grandfather and his dog Spitfire, were all gathered at one end of the Green in a group, *which so* aroused the innocent curiosity of Mrs. Johnson, *as* she saw it from one of the upper windows, that she and the children took their *early* promenade rather earlier than usual.

—*Ewing.*

I.

(a) What kind of sentence is the above?

(b) Point out the verbs which are used as predicates in the dependent clauses.

(c) Parse the 5 underscored words.

II.

In the following sentences point out the dependent clauses and state whether they are adverbial, adjective, or noun clauses:

(a) 'Tis my faith that every flower enjoys the air it breathes.

—*Wordsworth.*

(b) The reason why I came is understood.

(c) Then he was obliged to join his regiment, which was ordered abroad.

—*Ewing.*

III.

Tell the case of the italicized words in the following:

(a) He seems a good *boy.*

(b) He will become a fine *man.*

(c) They danced a *minuet.*

(d) He came *home* this *morning.*

(e) Give the objective case of we, he, who.

IV.

A. Write a synopsis of the verb *go,* in the progressive form, indicative mode. 3rd person, plural.

B. Name the tenses of the verbs in the following quotations:

1. "Will he recover?" "No. Sad business."

2. "But he wants encouragement."

3. "He shall have encouragement. You have my word for it. Should I do something else?"

C. Change to the passive voice, keeping the same tense, the verb *called.*

Phoebe Shaw they called her.

D. Give the past participle of each of the following verbs: sing, throw, drink, ring, do.

V.

In the following, answer either the group under A or B, but not both:

A. Change the adjectives into abstract nouns.

sweet, white, deep.

High School Physics

By WALTER S. NEWTON

V. KINETICS.

Definitions and Principles.

A. *Define force, motion, velocity.

KINETICS *or* DYNAMICS *treats of the laws governing forces by which motion is produced.*

FORCE *may be defined as action exercised upon a body so as to change its state of rest or motion.*

MOTION *is a continuous change in the position of a body.*

VELOCITY *is the rate at which a body is changing its position.*

B. *Uniform Motion.

UNIFORM MOTION *is the motion acquired by a body that passes over equal spaces in equal periods of time.*

Equation of Uniform Motion.

In uniform motion the velocity is constant; the distance that a body passes over is measured by the product of its velocity and the number of time units.

distance = velocity × time.

$d = vt.$

1. Newton's first law: inertia.

THE STATEMENT OF THE FIRST LAW IS: *Every body continues in its state of rest or uniform motion in a straight line unless impelled by an external force to change that state.*

This is known as the LAW OF INERTIA —the property which all matter possesses, the inability of a body to change its condition of rest or motion.

Type Problems.

1. In a four mile race between two boats, the time of the winning boat was 20 minutes and 15 seconds. What was the average velocity in miles per hour? In feet per second?

20 *min* + 15 *sec.* = 1215 *sec.*

1215 ÷ 3600 = 0.3375 *hr.*

$v = d/t.$ $v = 4/0.3375 = 11.085$ *miles per hour. Ans.*

5280 *ft.* × 4 = 21,120 *ft.*

21,120 ÷ 1215 = 17.38 *feet per second. Ans.*

2. A body moves with a uniform velocity of 15 feet a second. What distance will it pass over in 10 seconds?

$d = vt.$ $d = 15 \times 10 = 150$ *feet. Ans.*

3. A train moves at the rate of 10 miles an hour. How long will it take to travel a distance of 500 miles?

$t = d/v.$ $t = 500/10 = 50$ *hours. Ans.*

Drill Problems.

1. How far will an aviator fly in 2 hours at the rate of 125 feet per second?

2. A train leaves Chicago at 1 P. M., and reaches Boston the next day at 4 P. M. Regarding the distance as being 1025 miles, what is the average velocity of the train?

3. What distance will a body pass over in 12 seconds, if its velocity is 7 feet in 3 seconds?

4. A man can row a boat in still water at the rate of 8 miles per hour. What will be the direction the boat travels, and its velocity if he attempts to row across a stream that flows 6 miles per hour?

5. Two trains are moving at the rate of 10 and 12 miles per hour respectively. How will the distances traveled compare at the end of 4 hours?

C. *Variable Motion.

SPEED *is the rate of change of position of a moving body;* VELOCITY *is the speed in a definite direction.* If the motion is *uniform* and in a definite *direction* the *velocity* is measured by the distance a body travels in a unit of time. When there is a *change* in *uniform motion, i. e.*, when the velocity increases or decreases the motion is *variable.*

When the motion of a body is *variable*, its *velocity* at any instant is defined as *the distance it would travel in a second if at that instant its motion were to become uniform.*

1. Define acceleration.

ACCELERATION *is the rate of change of velocity.*

2. Uniformly accelerated motion.

When the velocity of a body is greater for each unit of time than it was for the preceding unit of time, its motion is said to be accelerated. If the increase of velocity is the same for each unit of time, we have *uniform accelerated* motion.

3. Falling bodies.

A body that is moving under the influence of gravity alone is a *freely falling body.*

LAWS OF FALLING BODIES.

The motion of a falling body is an accelerated motion. This acceleration is called the acceleration due to gravity, and is designated by the letter g. Galileo by experiments made by dropping various bodies from the top of the leaning tower of Pisa, demonstrated the following laws for falling bodies.

1. *The* VELOCITY *acquired at the end of any second is equal to* 32.16 *feet* (980 *cm.*) *multiplied by the number of seconds.*

Velocity = gravity $\times$ *time.* $V = g \times t$.

2. *The* DISTANCE *traversed during* ANY SECOND *of its descent is equal to* 16.08 *feet* (490 *cm.*) *multiplied by one less than twice the number of seconds.*

distance = 1/2 *gravity* $\times$ (2$\times$*second*—1).

$d = 1/2\ g\ (2\ t - 1)$.

3. *The* DISTANCE *traversed during* ANY NUMBER OF SECONDS *is equal to* 16.08 *feet* (490 *cm.*) *multiplied by the square of the number of seconds.*

distance = 1/2 *gravity* $\times$ *seconds squared.*

$d = 1/2\ g\ (t)^2$.

These formulas for freely falling bodies are very important, and should be committed to memory.

Type Problems.

1. What will be the velocity of a body after it has fallen 6 seconds?

$V = g\ t$

$V = 32.16 \times 6$

$V = 192.96$ *feet. Ans.*

2. How far will a body fall in the fifth second of its fall?

$d = 1/2\ g.\ (2t - 1)$.

$d = 16.08 \times 9$.

$d = 134.72$ *feet. Ans.*

3. How far will a body fall in five seconds?

$d = 1/2\ g \times (t)^2$.

$d = 16.08 \times 25$.

$d = 402$ *feet. Ans.*

Drill Problems.

1. How long will it take a body to fall 200 ft.? 300 ft.? 500 ft.?

2. What distance must a body fall to acquire a velocity of 200 ft. per second?

3. A man falls from a building 500 ft. high; with what velocity does he strike the ground?

4. A body falls for several seconds; during one of the seconds it traversed a distance of 300 ft.; during what second of its fall was it?

5. How far does a body fall during the seventh second of its descent?

6. How far must a body fall to acquire a velocity of 105 ft. a second?

7. Determine the distance a body will fall in the fourth second of its fall.

8. A stone is dropped down a well, it reaches the bottom in one minute; how deep is the well?

9. Through what height must a body fall to acquire a velocity of 500 ft. per second?

10. A body falls freely for 6 seconds. What is the space traversed during the last 3 seconds of its fall?

VELOCITY DOWN AN INCLINE PLANE.

Acceleration, like velocity, is subject to the parallelogram law. It has been found by experiments that motion down an incline plane is slower than the motion of a freely falling body. The component of gravity (g) which acts down the plane causes motion; the other components being destroyed by the reaction of the plane.

EQUATION FOR MOTION DOWN AN INCLINE PLANE.

We may apply the formula for freely falling bodies to motion down an incline plane, by multipliying the value of(g) by the ratio between the height and length of the plane. Let this ratio be represented by (r), then we have the following formulas.

1. $V = g\ (r)\ t.$
2. $d = 1/2\ g\ (r)\ (2t - 1).$
3. $d = 1/2\ g\ (r)\ (t)^2.$

EQUATION FOR ACCELERATED MOTION.

Since the acceleration of a body is equal to the product of the force of gravity and the ratio between the height and the length of an incline plane, i. e., (gr) we may express the laws of accelerated motion by substituting a (acceleration) for (gr) and we have,

1. $v = a\ t.$
2. $d = 1/2\ a\ (2t - 1).$
3. $d = 1/2\ a\ (t)^2.$

PROJECTILES.

Galileo demonstrated that the force of gravity has its effect upon a body whether at rest or in motion.

THREE CONDITIONS:—INITIAL VELOCITIES.

1. *Body thrown vertically downward.*
2. *Body thrown vertically upward.*
3. *Body thrown horizontally.*

1. Body thrown vertically downward.

When a body is thrown vertically downward with an initial velocity V; the final velocity V after t seconds will receive an increase of g gravity units each second.

$V = \mathrm{V} + gt.$

The total distance traversed, Vt on account of the initial force, and $1/2\ g(t)^2$ due to gravity while the body was falling may be expressed by the equation,—

$d = Vt + 1/2\ g(t)^2.$

The distance traversed during any second of its fall is expressed by the equation,

$d = V + 1/2\ g(2t - 1).$

2. Body thrown vertically upward.

In this condition gravity acts against the motion; thus g is negative, and this condition is expressed as follows:

$V = V - gt.$

$d = Vt - 1/2\ g(t)^2.$

$d = V - 1/2\ g\ (2t - 1).$

As the body rises it loses g units of velocity each second. Hence the number of seconds during which it is rising is obtained by dividing its initial velocity by the force of gravity.

Time of rising to highest point $= v/g.$

Height of ascent $= V^2/2g.$

3. Body thrown horizontally.

Bodies projected in any direction except up or down follow a curved path. An interesting case of this kind is the projection of a body horizontally from some point of elevation. The motion of the body will be the resultant of these two forces, namely (a) the force due to gravity, (b) the force of the initial velocity.

When the point of elevation is known the *time of flight* may be obtained from the equation,—

$d = 1/2\ g(t)^2.$

The horizontal distance traversed called the *range* is equal to the product of

the velocity and the number of time units the body is in the air.

Range $= Vt$.

Type Problems.

1. Determine the velocity of a ball moving down an incline 100 feet long and 25 feet high, if the time required is 5 seconds.

$V = g\ (r)t$.

$V = 32.16 \times (25 \div 100) \times 5$.

$V = 40.2$ *feet per second. Ans.*

2. A ball is thrown vertically downward from a cliff with a velocity of 40 feet per second, and strikes the earth in 5 seconds; find (a) its velocity, (b) total distance passed over, (c) distance passed over in the fifth second.

(a)

$V = V + gt$.

$V = 40 + 32.16 \times 5 = 200.8$ *feet per second. Ans.*

(b)

$d = Vt + 1/2\ g(t)^2$.

$d = 40 \times 5 + 16.08 \times 25 = 602$ *feet. Ans.*

(c)

$d = V + 1/2\ g\ (2t—1)$.

$d = 40 + 16.08 \times 9 = 184.72$ *feet. Ans.*

3. A rifle ball is shot upward with an initial velocity of 1000 cm. per second; how high will it rise?

$$d = \frac{V^2}{2g} = \frac{(1000)^2}{2 \times 980} = 510.2 \text{ cm. } Ans.$$

4. A stone is thrown horizontally from the top of a cliff 257.28 feet high, with a velocity of 50 feet a second. Determine (a) time of flight, (b) range.

(a) $d = 1/2\ g(t)^2$. $257.28 = 1608(t)^2$. $t = 4$ *sec.. Ans.*

(b) *range* $= vt = 50 \times 4 = 200$ *ft. Ans.*

Drill Problems.

1. With what velocity must a stone be thrown vertically upward in order that it may rise 1500 feet?

2. With what velocity must a ball be fired horizontally from a point 160 feet above the ground to have a range of 2000 feet?

3. A boy fires a rifle ball vertically upward and hears it fall on the ground in 20 seconds. Determine how high the ball rose and its initial velocity.

4. A stone is thrown down a well with a velocity of 60 feet per second, and reaches the bottom in 2 seconds. How deep is the well?

5. A body is projected vertically upward with a velocity of 500 feet per second. How long will it take to reach its greatest height?

6. If a cannon ball is projected horizontally from the top of a tower 49 feet high, with a velocity of 200 feet per second; find (a) time of flight, (b) the distance from the foot of the tower to the point at which the ball hits the ground, (c) its velocity when it hits the ground.

7. A rifle ball has a velocity, whose horizontal component is 1028 feet per second, when it is fired at such an elevation that its range is 3084 feet. What is the greatest height the ball reaches?

8. A body rolling down an incline plane is known to move over 10 cm. the first second. Determine (a) what velocity it will have at the end of the tenth second, (b) how far will it roll during the tenth second, (c) the distance passed over in 10 seconds?

9. A stone is thrown vertically upward with a velocity of 200 feet per second. How high will it rise? How long will it be in the air?

10. In what time will a body pass down an incline plane 100 feet long and 25 feet high?

D. *Momentum defined. Rate of change of momentum.

Definitions and Principles.

MOMENTUM *is the quantity of motion possessed by a moving body. It is measured by the product of the mass and the velocity of a body.*

Momentum = mass × velocity.
= mv.

THE RATE OF CHANGE OF MOMENTUM *is the measurement of the force acting on a body.*

2. Newton's Second Law.

Change of motion or momentum is proportional to the impressed force, and takes place in the direction in which the force acts.

The first law defines force, and the second law leads to the measurement of force.

Measurement of Force.

The rate of change of momentum is equal to the product of the mass of a body and the change of velocity in one second or the acceleration caused by the force.

Force = mass × acceleration.
= ma.

The *impulse of a force* is represented by the product of a force and the time during which it acts, i. e., it is equal to the total momentum produced by a force; thus

Force × time = mass × acceleration × time
Impulse = mass × velocity
= mv.

3. *Unit force gives to a unit mass a unit acceleration.

Force = mass × acceleration.

When both the mass and acceleration are each equal to 1, the force will be equal to 1.

The unit of force may be defined as that force which will produce a unit of velocity upon a unit of mass in a unit of time.

Kinds of Units.

The Absolute Unit of Force, in the C. G. S. system is called a dyne.

The DYNE *is the force that, acting for one second upon a mass of one gram, produces an acceleration of one centimeter per second.*

The Absolute Unit of Force, in the F. P. S. system is called a poundal.

The POUNDAL *is the force that, acting for one second upon a mass of one pound, produces an acceleration of one foot per second.*

The poundal and the dyne are called absolute units of force, because their values do not vary.

The Gravitational Units of Force, are the *pound weight* and the *gram weight.* They are called gravitation units of force. because their values depend on the force of gravity, and vary a little at different points on the earth's surface.

4. *Weight of unit mass=980 C. G. S. units of force or about 32 F. P. S. units.

A mass of one pound, if allowed to fall freely at the latitude of New York, will acquire in one second a velocity of 32.16 ft. per second; thus, a pound weight at New York, is equal to 32.16 poundals. Likewise, a gram weight at New York is equal to 980 dynes.

TO CHANGE FROM ONE UNIT TO ANOTHER UNIT.

1. Gravitation to absolute units of force, *multiply* the number of pounds or grams by *g* (force of gravity).

2. Absolute to gravitation units of force, *divide* the number of poundals or dynes by *g*.

E. *Newton's Third Law.

To every action there is an equal and opposite reaction.

Since force is measured by rate at which momentum changes, this is another way of saying that whenever one body acquires momentum some other

body, upon which it acts, always acquires an equal and oposite momentum.

Illustration:

When a gun is fired, the gun recoils, or "kicks." The force exerted against the bullet is equal and opposite to that exerted against the gun. Hence, the momentum acquired by the bullet is equal and opposite to that acquired by the gun, if the latter is free to move.

Reflected Motion.

REFLECTED MOTION *is the motion produced by the reaction of another body, either one or both of the bodies being elastic.*

Law of Reflected Motion.

The angle of incidence will equal the angle of reflection, and lies in the same plane.

F. *Work Defined, and Formula, Work= FD.

WORK DEFINED. *Work is the action of force through distance.*

However great the force used, no work is done unless, the body moves. For example, attempting to lift a weight from the ground without succeeding in moving it is not doing work in the scientific sense; but lifting the weight to a higher position implies that work is being done upon it.

Elements of Work Measure.

1. The acting force.
2. The distance through which the force continues to act.

Measurement of Work.

Work is directly proportional to the acting force and the distance through which the force continues to act, and is measured by their product. Thus

Work = force × distance

Work = fd.

Units of Work.

Since work is the action of force through distance, a unit of work is done when a unit of force acts through a unit of distance. For every unit of force there is a corresponding unit of work.

There are four fundamental *units of work,* depending on the units in which *f* and *d* are expressed.

Absolute Units.

1. THE ERG *is the work done when a force of one dyne acts through a distance of one centimeter.*

2. THE FOOT POUNDAL *is the work done when one pound is raised vertically through a distance of one foot.*

Gravity Units.

3. THE KILOGRAMMETER *is the work done when one kilogram is raised vertically through a distance of one meter.*

4. THE FOOT POUND *is the work done when one pound is raised vertically through a distance of one foot.*

REFERENCE TABLE.

Work (ergs) = *f* (dynes) × d (centimeters).

Work (foot-poundals) = *f* (poundals) × *d* (feet).

Work (kilogram-meters) = *f* (kilograms) × *d* (meters).

Work (foot-pounds) = *f* (pounds) × *d* (feet).

Type Problems.

1. A force of 98 dynes acts through a distance of 16 cm. How many ergs of work are done?

Work = *f d* = 98 × 16 = 1568 *ergs. Ans.*

2. What is the momentum of a 100 lb. cannon ball, moving with a velocity of 6 ft. per second?

Momentum = *mv* = 100 × 6 = 600. *Ans.*

3. Express in dynes, the force that gives to a mass of 40 grams an acceleration of 5 cm. per second, per second.

Force = *ma* = 10 × 5 = 200 *dynes. Ans.*

4. If a force, acting on a mass of 200 lbs., gives it a velocity of 12 ft. per second; what is the value of the force (a) in poundals (b) in pounds?

(a) *Force* $= mv = 200 \times 12 = 2400$ *poundals. Ans.*

(b) $2400 \div 32\ (g) = 75$ *lbs. Ans. lbs. Ans.*

5. How high must a barrel of flour weighing 196 lbs. be raised in order to do 588 foot pounds of work?

$$Work = f\ d$$

$$d = \frac{Work}{f} = \frac{ft.\text{-}lb}{f} = \frac{588}{196} =$$

3 *ft. Ans.*

Drill Problems.

1. How many foot pounds of work does a 125 lb. man do in climbing to the top of Mt. Washington, which is 6300 ft. high?

2. A 25-lb. ball leaves a gun whose mass is 5 tons with a velocity of 1100 ft. per second. Find the velocity of recoil of the gun.

3. Calculate the amount of work done when one cubic meter of water is raised to a height of 10 m.

4. Determine the work done by a force of 25 dynes acting through a distance of 320 cm.

5. A cannon shot, weighing 100 lbs., strikes a target directly with a velocity of 1500 ft. per second, and comes to rest; what is the measure of the impulse?

6. If in the above example the cannon shot rebounded with a velocity of 200 ft. per second, what would have been the measure of the impulse?

7. How much work is done by a laborer who carries 1000 lb. of brick up to a bricklayer working 40 feet above the ground?

8. Express in foot-poundals the amount of work done by a mass of 4000 grams.

9. Determine the momentum of a train weighing 20 tons moving with a velocity of 50 ft. per second.

10. How many foot pound of work are done when a force of 20 poundals acts through a distance of 15 feet?

G. *Law of Conservation of Energy.

Energy defined.

The ENERGY OF A BODY *is its capacity for doing work, or its power to do work.*

A body in motion has this power. A swift-moving bullet will penetrate a hard substance. Moving water will set the machinery of a mill in motion. A great number of instances might be mentioned showing that bodies when in motion have the power of doing work and this power is called energy.

Law of conservation of energy.

Energy can neither be created or destroyed, hence the same quantity of energy is present in the universe to-day as existed centuries ago.

2. *Kinds of energy.

Kinetic.

Potential.

(a) *Potential energy defined and determined as equal to $f\ d$ from the law of conservation of energy.

POTENTIAL ENERGY *is energy possessed by a body, because of its position or form.*

Measure of Potential Energy.

The potential energy of a body is measured by the work that was done upon it, against some acting force to bring it into the condition so that it possesses that energy. Energy is measured in the same units as work.

Potential Energy $= f\ d = w\ d.$

in which w is the weight, f the force of the body due to its position, and d the distance above the point with reference

to which its potential energy is measured.

(b) *Kinetic energy defined.

KINETIC ENERGY *is energy possessed by a body because of its motion.*

Measure of Kinetic Energy.

The kinetic energy of a body is measured by the amount of work done by the body while being brought to rest. Expressed in terms of mass and velocity, *the kenetic energy of a moving body is measured by one-half its mass multiplied by the square of its velocity.*

Kinetic Energy $= 1/2\ m(v)^2$.

In gravity units.

$$\textit{Kinetic Energy} = \frac{M(v)^2}{2g}.$$

TRANSFORMATION OF ENERGY.

If a ball is thrown up and lodges on the roof, it has *potential energy* stored up in it; if it slips and falls, this *potential energy* is changed into kinetic *energy.*

Hence we see that these are inter-convertible. Kinetic energy may be changed to potential, and potential may be changed to kinetic.

Type Problems.

1. What is the potential energy of a 500 lb. weight raised to the height of 25 ft.?

P. E. $= wd = 500 \times 25 = 1250$ *foot pounds. Ans.*

2. Calculate the kinetic energy of a 100 gram bullet moving with a velocity of 10,000 cm. per second.

$K.E. = 1/2\ in(v)^2 = 1/2 \times 100 \times (10{,}000)^2$
$= 5{,}000{,}000{,}000$ *ergs*

Ans.

3. What is the kinetic energy of a 500 lb. weight, if alowed to fall with a velocity of 1500 ft. per second?

$$K.E. = \frac{M(v)^2}{2g} = \frac{500 \times 1500 \times 1500}{2 \times 32.16} =$$

34981.34 *foot pounds. Ans.*

Drill Problems.

1. How much kinetic energy has a cannon ball weighing 50 lb. and moving with a velocity of 1600 ft. per second?

2. A projectile weighing 40 kg. is thrown obliquely upward with a velocity of 20 m. How much kinetic energy has it?

3. What is the potential energy of a 10 lb. weight ready to fall 10 feet?

4. The kinetic energy of a weight moving with a velocity of 1260 ft. per second, is 6,170,709 foot pounds. Determine the number of pounds in the weight.

5. Explain in detail what becomes of the potential energy of the powder used to fire a rifle and state what principle of physics is illustrated in your answer.

Power defined.

H. *Unit of power.

POWER *is the rate of doing work.* The work done in a given time, divided by the time, gives the average rate of doing work, or *power.*

$$\textit{Power} = \frac{\textit{Work}}{\textit{Time}}$$

UNITS OF POWER.

1. *Horse power.*
2. *Watt.*

In the F. P. S. system the unit of power is the *foot poundal* per second. This unit is so small, it is seldom used. The practical unit being the *horse power.*

The HORSE POWER (H. P.) *is the rate of doing work equal to* 550 *foot-poundals per second or* 33000 *foot-pounds per minute.*

$$\text{H. P.} = \frac{\textit{foot} \times \textit{pounds}}{550 \times \textit{seconds}}$$

In the C. G. S. system the unit of power is the *erg* per second. This is so small it is seldom used. The practical unit being the *watt.*

The *watt* is the rate of doing work equal to the work done at the rate of $(10)^7$ ergs per second.

1 *Watt* = 1 *joule per second*
= $(10)^7$ *ergs per second*
One horse power = 746 *watts*
= 746 × $(10)^7$ *ergs per second.*

Water Power.

Rapidly moving water has the ability to do work and therefore has power. The power when utilized may be put to numerous uses. The work done by a fluid, as water, when a volume of it flows under pressure through any machine is measured by the product of the pressure × volume.

Fluid Work = *Pressure* × *Volume.*

Since power is the rate of doing work. Water power is determined by dividing the work done by the time taken to do it.

$$\textit{Water Power} = \frac{\textit{Work}}{\textit{Time}} = \textit{Pressure} \times \textit{Volume per second.}$$

Work is measured in foot pounds.

Power is measured in foot pounds per second.

Drill Problems.

1. Calculate the horse power of an engine that can raise 3850 lbs. 175 feet in 49 seconds.

$$\text{H. P.} = \frac{ft. \times lbs.}{550 \times sec.} = \frac{175 \times 3850}{550 \times 49} = 25$$

Ans.

2. What will be the horse power required to raise 350 tons of coal from a mine 150 ft. deep, in 8 hours, if friction increases the load 10%? What is the power of the engine in watts?

Work = *wd* = (350×2240)×150×1.10
= 129,360,000 *foot pounds.*

$$\text{H. P.} = \frac{129{,}360{,}000}{33{,}000 \times 8 \times 60} = 8.16+ \textit{ Ans.}$$

8.16 × 746 = 6087.36 *watts. Ans.*

3. Calculate the fluid work done by a city water plant, that furnishes 1,000,000 gallons a day against a pressure of 60 pounds to the square inch.

$$\textit{Fluid Work} = \textit{Pressure} \times \textit{Volume.} = 60 \times \frac{1{,}000{,}000 \times 231}{12} = 1{,}155{,}000{,}000 \textit{ ft. lbs.}$$

Ans.

4. Determine the power supplied by water to a turbine, when the difference between the height of the supply water and the turbine is 146 ft., after 1,200,000 cu. inches have flowed down the pipe.

Water pressure at turbine =146/2.3= 62.5 *pounds per square inch.*

WATER POWER = *Pressure* × *Volume per second.*

$$= 62.5 \textit{ lbs.} \times \frac{1{,}200{,}000 \textit{ cu. in.}}{12 \textit{ per second.}} = 6{,}250{,}000 \textit{ foot pounds per second. Ans.}$$

5. What will be the horse power of an engine that can pump 6,250,000 foot pounds per second?

$$\text{H. P.} = \frac{\textit{ft. lb. per second}}{550 \textit{ lbs. per second}} = \frac{6{,}250{,}000}{550} =$$

11363+ *Ans.*

Drill Problems.

1. What is the horse power of an engine that raises 60 cubic feet of water per minute from a depth of 350 ft.?

2. An engine draws a train of 50 tons at the rate of 50 miles an hour against a resistance of 8 lbs. weight per ton: find its horse power.

3. The surface of the water in a reservoir is 200 feet above the distributing pipes; find the pressure per square inch on these pipes.

4. At a faucet delivering water from a reservoir, the water pressure is 75 lb. per sq. in.; what is the vertical height of the water level in the reservoir above the faucet? (1 cu. ft. of water weights approximately 62.5 lb.)

5. A mine is 350 feet deep and water is flowing into it at the rate of 150 cubic feet per minute. What is the necessary horse power of a pump that will keep it dry?

6. Compute the horse power of an engine that can raise 3275 pounds 150 feet in 2 minutes.

7. In what time will a 40-horse power engine pump 4,000 cubic feet of water to a height of 360 ft.?

8. How far can a 2 horse power engine raise 4 tons in 30 seconds?

9. Reduce 2760 watts to horse power.

10. How many joule's per second is a power of 550 foot pounds per second equal to?

I. *Machines, mechanical advantage, (problems), mechanical efficiency defined and discussed. (Use terms effort and resistance.)

A MACHINE *is a mechanical device used to apply force advantageously.* It is an instrument capable of causing a force, which is applied at one point, to do work at another point, i. e., it is an instrument for the transference of energy.

The six simple machines are: the *lever, wheel and axle, pulley, incline plane, wedge, and screw.*

Mechanical advantage.

The mechanical advantage of a machine *is the ratio between the resistance and the effort.*

The Mechanical Efficiency.

The efficiency of a machine *is the ratio of the useful work got out of it to the total work put into it.*

The General Law of Machines.

The effort (power) multiplied by the distance through which it acts equals the resistance multiplied by the distance through which it is moved.

Expressed in a formula:

Effort × *distance* = *resistance* × *distance.*

$$E \times D = R \times d$$

Principle of Work.

A machine cannot create work. All that a machine can do is to vary the ratio of the factors, effort (force) and distance. The product of these two factors measures the work done by overcoming a resistanee, the product itself remaining unchanged.

J. *Lever, Wheel and Axle.

THE LEVER *is a rigid bar, capable of turning on an axis called the fulcrum.*

Classes of Levers.

There are three classes of levers, which are distinguished by the relative positions of the fulcrum and the points of application of the applied force (power) and the resistance (weight). [The term *effort* will be used instead of terms *force* and *power.*]

FIRST CLASS: Fulcrum is between effort and resistance; as in the crow bar, scissors, etc.

SECOND CLASS: Resistance is between fulcrum and effort; as in the wheelbarrow, nutcracker, etc.

THIRD CLASS: Effort is between fulcrum and resistance; as in the fire tongs, sheep shears, etc.

The General Law of Machines applies to the lever and may be restated thus; *the resistance that may be overcome with a lever is as many times the effort required as the effort arm is times the resistance arm.* Expressing this law in the form of a formula we have.

Effort × *effort arm* = *resistance* × *resistance arm.*

$E \times D = R \times d$

The moment of effort = the moment of resistance.

The mechanical advantage of any lever is the ratio of the longer arm to the shorter arm.

Type Problems.

1. The fulcrum of a lever 1 meter long is 20 centimeters from one end; from the end of the short arm is suspended a weight of 30 kilograms. Find the weight that must be attached to the other end of the lever to maintain equilibrium.

1 *meter* = 100 *cm.*

100 *cm.* — 20 *cm.* = 80 *cm.*, the length of the long arm. Since this is a lever of the first class, we have a common balance in which system the effort applied to one arm and the resistance applied to the other arm are both equal to the weights used.

Effort × *its arm* = *resistance* × *its arm.* or

Weight × *its arm* = *weight* × *its arm.*

30 *kg.* × 20 = *weight* × 80

600 *kg.* = 80 (*weight*).

weight = 7 1/2 *kg. Ans.*

2. A steel girder 30 feet long, weighing 200 pounds to the foot, is supported on piers at the ends; a weight of 500 pounds rests on the girder 12 feet from one end. Find the total pressure on each pier.

Weight of girder=30×200 lbs.=6000 lbs.

Weight borne on each pier=6000÷2= 3000 lbs.

30 ft.—12 ft.=18 ft., the distance of the weight of 500 lbs. from the other pier. The 500 lbs. is borne in the proportion of 12 to 18 or 2 to 3. One end bears 200 lbs. and the other 300 lbs. of the 500 lb. weight.

3000 lbs. + 200 lbs. = 3200 lbs.

3000 lbs. + 300 lbs. = 3300 lbs.

Therefore 3200 lbs. and 3300 lbs. are the total pressure on the piers each distant 18 and 12 ft. respectively from the suspended weight. Ans.

3. A body weighs 36 pounds in one pan of a false balance and 25 pounds in the other; find the true weight of the body.

True weight = the square root of (36×25) lbs.

= 30 *lbs. Ans.*

Drill Problems.

1. In a balanced lever of the second class the power is 2 kilograms and the weight of 12 kilograms is 16 decimeters from the fulcrum; find (a) the length of the power arm, (b) the distance from the power to the weight.

2. A rigid bar 17 feet long is supported at its extremities A and B; suspended from the bar 5 feet from A is a weight of 144 pounds, and 7 feet from B a weight of 90 pounds. Find the weight resting on each point of support.

3. Two men, A and B, carry a weight of 112 pounds on a pole between them. The men are 8 feet apart and the weight is two and one-half feet from A; find what part of the weight each man bears.

4. Two weights, 8 and 4 lbs., are hung from the ends of a rigid rod 6 ft. apart; where must its fulcrum be that it may rest horizontal?

5. A body appears to weigh 3 and 5 pounds when placed in different scale pans of a balance; determining its true weight.

6. The arms of a lever of the first class are 4 ft. and 9 ft. What is the greatest weight that a force of 50 lbs. can support?

7. The handle of a claw hammer is 12 in. long, and the claw is 3 in. long. When a force of 40 lb. is applied to the handle, the nail is drawn out. What is the resistance due to the nail?

8. A pole is 30 ft. long; its center of gravity is 3 ft. from its center of length; when supported at its center of length there is required a weight of 100 lb. at one end to keep the pole horizontal. What is the weight of the pole?

9. A machine with a power of 30 lb. moving 30 ft., moves a resistance of 150 lb. of force through 4 1/2 ft.; what is its efficiency?

10. Weights of 700 and 400 pounds are attached to the ends of a straight, rigid horizontal bar 44 inches in length.

Show by diagram where a single force may be applied so as to sustain the bar and weights without rotation (neglecting the weight of the bar). What force would be required thus to sustain the bar?

WHEEL AND AXLE.

Another type of machine is the wheel and axle. This machine is a simple modification of the lever, the arms being the radii of the wheel and axle.

Principal and Construction

This machine consists of a large wheel fastened to an axle upon which it revolves. The power, or effort, is usually applied at the circumference of the large wheel, and the weight, or resistance, at the circumference of the axle.

If a force (f) turns the wheel through one revolution, the distance that the force acts is equal to the circumference of the wheel. The work done is equal to the force (f) × circumference of wheel. One revolution of the wheel lifts the weight w through a distance equal to the circumference of the axle. The work done is equal to the weight w × circumference of axle.

Law of Wheel and Axle.

E × circumference of wheel = W × circumference of axle.

Letting R represent the radius of the wheel and r represent the radius of the axle. We may express this relation by means of a formula.

$$F \times R = W \times r$$

or $W : F :: R : r$

The mechanical advantage of a wheel and axle is equal to the radius R of the wheel divided by the radius r of the axle.

The Windlass.

In the windlass the wheel is replaced by a handle, but the principle of work applies the same as if a wheel were used. The length of the handle corresponding to the length of the radius of the wheel.

The Capstan.

In the capstan the axle or barrel is vertical. Power is applied at the end of long bars, the ends of which are fastened into a barrel around which the rope is wound. The length of the bars or lever arms take the place of the radius of the wheel and the radius of the barrel corresponds to the radius of the axle.

Type problems.

1. The radii of a wheel and axle are 3 ft. and 6 in.; what force must be applied to raise a 56 lb. weight?

$$F \times R = W \times r.$$

$$F \times 3\ ft. = 56\ lbs. \times 1.5\ ft.$$

$$F = 9\ 1/3\ pounds.\quad Ans.$$

2. An anchor weighing one ton is raised by a chain winding on a capstan whose barrel is 10 inches in diameter; the capstan is turned by 4 men pushing at the ends of handspikes each 5 feet long. How much force does each man exert?

$$F \times R = W \times r$$

$$F \times \text{FJ} = 200\ lb. \times 5$$

$$F = 166.66 + lbs.$$

$$166.66 + \div 4 = 41.66 +.\ Ans.$$

3. By means of a windlass a weight of 600 lbs. is raised. The barrel has a

radius of 4 in. and the length of the crank handle is 2 ft.; determine the required power.

$F \times R = W \times r$

$F \times 24 = 600\ lbs. \times 4$

$F = 100\ lbs.$ *Ans.*

Drill Problems.

1. A weight of 35 lbs. balances 252 lbs., and the radius of the wheel is 25 in.; find the radius of the axle.

2. What must be the ratio of the radii of a wheel and axle in order that a force of 100 lb. may support 1 ton?

3. In order to raise through a distance of 36 feet a bucket of water weighing 60 pounds, it is required to design a wheel and axle so that the counterbalancing weight may fall 6 feet; fix the radius of the wheel and the mass of the counter-balancing weight.

4. Make a diagram of a wheel and axle; indicate the parts of the wheel and axle that correspond respectively to fulcrum, power arm and weight arm in a lever. State the law of equilibrium for the wheel and axle.

5. What power will be required to raise a weight of 240 lb. with a windlass whose axle is 1 ft. in diameter, and handle 3 ft. long?

6. What must be the radius of the axle if a pull of 42 lb. on the circumference of the wheel, having a radius of 24 in., will balance a stone weighing 250 lb. suspended from the axle?

7. A power of 80 pounds, on a wheel whose diameter is 10 feet, balances 250 pounds on the axle. Determine the diameter of the axle.

8. A capstan whose barrel has a diameter of 14 inches is worked by 4 handspikes, each 8 feet long. At the end of each handspike a man pushes with a force of 25 pounds; 2 feet from the end of each handspike, a man pushes with the force of 20 pounds; calculate the total force produced by all the men.

9. The pilot wheel of a boat is 4 feet in diameter; the axle 8 inches; the resistance of the rudder 250 pounds. What power applied to the wheel will move the rudder?

10. A bucket weighing 5 kilograms and holding 10 liters is suspended in a well from an axle 15 centimeters in diameter, turned by a wheel 60 centimeters in diameter; find what force must be applied to the wheel to support the bucket full of water.

K. *Pulley.

The pulley consists of a small wheel capable of turning freely, on an axis which fits in a frame. The wheel is called the sheaf, and the frame the block. The power is applied at the end of a rope which passes over the pulley wheel.

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1. Single fixed pulley.

A pulley is said to be *fixed* when the *block* is *fixed,* and is only used to change the *direction of motion,* and not to save work. The power arm is always equal to the weight arm, representing a lever of the first class having equal arms. Applying the law of the lever, thus

$P : W = r : R$

but $r = R$

then $P = W.$

---

2. Single movable pulley.

A pulley is said to be *movable* when the *block* is *movable.* It is a modified lever of the second class. The weight W, or resistance to be overcome, is fastened to the movable pulley; one end of the rope used is fastened to some stationary object, to the other end the power is applied. The single movable pulley saves work but does not change

the direction of motion. The movable pulley sustains one half the weight while the power applied lifts the other half, but moves through twice the space; thus by taking twice the time we can lift twice as much. Expressed in a formula, applying the law of the lever,

$$P : W = r : R$$

but $R = 2r$

$$P : W = 1 : 2$$

$$or\ P = 1/2\ W.$$

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3. Any number of pulleys with a continuous cord.

Combination: one fixed and one movable. If one end of the cord is fastened to some stationary support, the weight suspended from the pulley, and the power applied to the other end of the cord, it is evident that the weight is suspended by two cords that the stationary support sustains half the weight and the power the other half. This system of pulleys saves work and changes the direction of work.

We may express this relationship, if n represents the number of strands between which the weight is divided, by the formula

$$P = W/N$$

or

$$P \times N = W$$

General Law of Pulleys.

In any combination of pulleys having a continuous cord, a given power will support a weight as many times as great as itself as there are parts of the cord supporting the movable block.

By observing several combinations of pulleys it will be seen that

(1) when the fixed end of the cord is fastened to the *fixed block,* the *number* of *parts of the cord* supporting the *movable block, likewise* the *weight* is equal to *twice the number of movable pulleys used.*

(2) When the fixed end of the cord is fastened to the movable block, the number of parts of the cord is one more than twice the number of movable pulleys used.

Mechanical Advantage.

The mechanical advantages of the pulley is the ratio of the distance through which the effort or power moves to the distance through which the resistance or weight moves.

Type Problems.

1. With a fixed pulley, what power will support a weight of 75 pounds?

$P \times n = W$

$P \times 1 = 75\ lbs.$

$P = 75\ lbs.\ Ans.$

2. What is the greatest weight, that a system of 3 fixed and 2 movable pulleys, (rope being attached to the movable block) will support, when a power of 50 pounds is applied?

$P \times n = W.$

$50\ pounds \times 5 = W.$

$250\ lb. = W,\ hence\ W = 250\ lb.\ Ans.$

3. Figure a set of pulleys by which a power of 100 lbs. will support a weight of one ton.

$P \times n = W.$

$100\ lb \times n = 2000\ lb.$

$n = 20.$

Any system that has 20 parts of a rope supporting the weight. Ans.

Drill Problems.

1. Describe by aid of a diagram an arrangement of pulleys to hold in suspension 600 lbs. by a power of 100 lbs.

2. With a block and tackle of two movable pulleys and two fixed pulleys, how great a weight will a power of 40 pounds support?

3. Two men, who can exert an effort equal to 300 pounds, wish to raise a

piano weighing 1200 pounds to a second story window. Describe the combination of pulleys that will enable them to do it.

4. What force will be required to balance 1 ton weight with three movable pulleys.

3. A weight of 250 kg. is raised 25 cm. by means of a movable pulley. How much force is required? How far does the force move?

6. Represent by a diagram a system of pulleys by means of which a weight of 20 pounds would just balance a weight of 100 pounds.

7. How many pounds could be lifted with a system of 4 movable pulleys by a power of 150 pounds?

8. With two pulleys with 4 sheaves in each block, what is the least power that will support a weight of 1500 lbs., allowing one-fourth for friction?

9. By means of a fixed and a movable pulley, determine the power necessary to raise a weight of 150 lbs.?

10. What is the efficiency of the pulley?

L. *Incline plane (effort parallel to incline).

AN INCLINE PLANE *is a smooth, hard inflexible surface arranged so as to make an oblique angle with the horizon.* It is used to raise a body with a force less than its own weight.

The Incline Plane.

Let AB represent an incline plane.

Let BC represent the height to which the plane is raised and AC the horizontal distance between A and C. Regarding the length $AB=L$, the height $BC=H$, and $AC = B$.

Two cases.

1. When the effort acts parallel to plane.

If the effort or force F acts parallel to AB causes a ball whose weight is W to move through a distance AB, the work done by the force is $F \times L$. The weight W is lifted a distance equal to BC, and the work done is $W \times H$. By the principal of work.

$$F \times L = W \times H.$$

or $F : W = H : L.$

The mechanical advantage is the ratio of the length of the plane to its height.

$$W/F = L/H.$$

2. When the effort acts parallel to the base of the plane.

If the force which keeps the body in position acts parallel to the base B, the components will be found to satisfy the following equation.

$$F \times B = W \times H.$$

or $F : W = H : B.$

The mechanical advantage is the ratio of the distance representing the base of the plane to its height.

$$W/F = B/H.$$

Type Problems.

1. What force will be required to roll into a wagon a barrel of pork weighing 200 lb., up a plane 12 ft. long and 3 ft. high?

$$F \times L = W \times H$$
$$F \times 12 = 200 \times 3$$
$$F = 50, \textit{ hence } 50 \textit{ lb. Ans.}$$

2. The length of an incline plane is 13 ft. and its height is 5 ft.; find what weight will be sustained on the plane by a power of 390 lb., acting parallel to the base.

Extracting the square root of 13 square plus 5 square we obtain 12, the length of the base of the plane.

$$F \times B = W \times H$$
$$390 \times 12 = W \times 5$$
$$W = 936, \textit{ hence } 936 \textit{ lb. Ans.}$$

3. A weight of 400 lb. is to be lifted along an incline. The power is 100 lb.; give the ratio of the incline that may be used.

$$F : W = H : L$$
$$100 : 400 = H : L$$
$$1 : 4 = H \text{ s } L$$

A plane whose length is 4 ft. and having a height of 1 ft. will do the work. Ans.

Drill Problems.

1. How high would a power of 12 lb., moving 16 ft. along an incline plane, lift a weight of 100 lb.?

2. The lengths of the height and base of an incline plane are 3 and 4 yards respectively; find what weight will be sustained on the plane by a power of 100 lb. acting (a) parallel to the base, (b) parallel to the plane.

3. The base of an incline plane is 10 ft., the height is 3 ft. What force acting parallel to the base, will support a weight of 3 tons?

4. A boy sits on his sled on the side of a hill that rises 1 foot in every 6 ft. Regarding the weight of the boy and sled as 600 pounds; what force acting parallel to the ground will keep the sled from sliding down the hill?

5. The base of an incline plane is 80 inches and the height is 39 inches. What force acting parallel to the plane will support on it a weight of 178 pounds?

6. What force parallel to an incline plane 18 feet long and 12 feet high will support on the plane a body weighing 75 pounds?

7. A cylinder weighing 400 lb. rests on an incline plane 12 feet long whose upper end is 3 feet higher than its lower end; find the power which acting parallel with the plane and applied directly to the axis of the cylinder, will hold it in equilibrium.

8. A 1200 pound weight must be raised 5 feet. The force that can be applied is 550 pounds. What is the shortest incline plane that can be used for the purpose?

9. What force is needed to support 500 lb. on a smooth incline plane, if the grade is 5 per cent.?

10. The efficiency of an incline plane is 50 per cent. If the length of the plane is 20 ft. and its height 4 ft., what force acting parallel to the plane will move a body weighing 600 lb.? What force will be required acting parallel to the base?

The Screw.

THE SCREW *is a combination of the incline plane and the lever.* It consists of a *cylinder* around which there is a uniform projection in the form of a spiral curve, called the *thread.* It works in a *nut* which is fitted with reverse threads to move on the thread in the screw. The power is usually applied by means of a lever which causes the screw to turn around.

Principle of Work.

When the screw is turned once around, it moves upward through a distance equal to the distance between two adjoining threads. This distance is called the *pitch* of the screw. The distance through which the force acts is the circumference of a circle, whose radius is equal to the length of the lever. By the principle of work we may express this relation thus:

Force × *circumference* = *weight* × *pitch.*

$$\textit{Mechanical Advantage} = \frac{\textit{circumference}}{\textit{pitch}}$$

The Wedge.

The wedge may be considered as two incline planes placed base to base. It is an instrument designed to overcome a great resistance by working through a very small space. It is used for splitting wood, raising large blocks of stone, etc.

Since friction cannot be disregarded, no definite relation between effort and resistance can be given.

Theoretically the condition of equilibrium is the same as that of the incline plane.

$$\frac{\textit{Effort}}{\textit{Resistance}} = \frac{\textit{thickness of wedge}}{\textit{short length of wedge}}$$

Drill Problems.

1. The pitch of a jack-screw is one-half inch and the bar that turns the screw is 5 feet long; find what force must be applied to the end of the bar to move a weight of 2,000 lb.

Force × *circumference* = *weight* × *pitch.*

$$\textit{Force} = \frac{2000\times 1/2}{2\times 22/7\times 60} = 2\ 43/66$$

lb. Ans.

2. The radius of a wheel of a letter press is 12 in.; the threads of the screw are one-fourth inch apart. Neglecting friction, what resistance will be overcome by an effort of 50 lb.?

Force × *circumference* = *weight* × *pitch.*

$$\textit{Weight or resistance} = \frac{50(2\times 12\times 3.1416}{1/4} = 15{,}079.68\ \textit{lbs.}$$

Ans.

3. A man in splitting wood uses a wedge 1 in. thick and 4 in. long; if he strikes with a force equal to 50 lb., how many pounds resistance will be overcome?

$$\frac{\textit{Effort}}{\textit{Resistance}} = \frac{\textit{thickness of wedge}}{\textit{slant length of wedge.}}$$

$$\textit{Resistance} = \frac{50\times 4}{1} = 200\ \textit{lb. Ans.}$$

Drill Problems.

1. The lever of a screw is 3 ft. long, and the distance between the threads is one-fourth of an inch. What pressure must be applied to produce a pressure of 10 tons?

2. A screw with threads 1 in. apart is driven by a lever 4 ft. long; what is the ratio of the power to the weight?

3. A force of 100 lb. is applied to the end of the bar of a jack-screw. If the bar is 4 ft. long and the screw has 10 threads to the foot, what weight may be raised? (Allow 25 per cent for friction.)

4. A weight of 4000 kg. is to be raised by a jack-screw whose threads are 5 cm. apart; neglecting friction; find the power necessary to raise the weight if it is applied to a lever 1 meter long.

5. How much pressure, neglecting friction, is brought to bear upon a book in a letter press, if the threads are one-quarter inch apart and the radius of the wheel is 7 inches, when the power exerted is 10 pounds?

M. *Curvilinear motion: centripetal force qualitatively illustrated.

CURVILINEAR MOTION *is motion around a circular path.* If a weight is tied to a cord and swung around a curved path is the result.

Centripetal and centrifugal forces distinguished. The pull of the cord that compels a body to move in a circular path, is directed toward the center, and is called the *centripetal force.*

The reaction that the moving body offers to the centripetal force is called the *centrifugal force.*

If v is the velocity with which a body is moving in a circular path, r the radius of the circle described, m the mass of the body; the centripetal force is expressed in absolute units (poundsals or dynes.)

$$\textit{Centripetal force} = \frac{MV^2}{r}$$

$$\textit{Centrifugal force} = \frac{Wv2}{gr}$$

The formula for centrifugal force expresses the force in gravitational units as the gram-weight and pound-weight.

Type Problems.

1. A stone weighing 10 lb. is attached to a cord 2.5 ft. long and whirled around a circle with a velocity of 20 ft. per second. Find the tension of the string.

$$\textit{Tension of string} = \frac{Mv^2}{r} = \frac{10\times20\times20}{2.5} =$$

1600 *poundals. Ans.*

2. A ball weighing 10 lb. is swung around a circle 5 ft. in diameter with a velocity of 20 ft. per second. Determine the pull necessary to keep the ball in its path.

$$\textit{Pull necessary} = \frac{Wv^2}{g.r.} = \frac{10\times20\times20}{32.16\times2.5} =$$

49.75 *lb. Ans.*

Drill Problems.

1. A body whose mass is 60 grams moves with a velocity of 20 centimeters per second. What is its centripetal force?

2. A body weighing 25 lb. moves in a circle with a velocity of 25 ft. per second. Determine its centrifugal force.

3. A train weighing 40,000 tons is caused to move around a circular track having a diameter of 2 miles. The velocity of the train being 40 miles per hour, determine the centripetal force necessary to keep the train in its path. What means is used to overcome this force?

4. A body moves in a circle having a radius of 12 feet. If its centrifugal force is 50 pounds and the weight of the body is 20 pounds. Calculate its velocity.

5. How may a centripetal force be changed to a centrifugal force?

N. *Laws of simple pendulum.

1. As to amplitude of vibration.
2. As to weight of bob.
3. As to length of pendulum.

The SIMPLE PENDULUM consists of a weight hung from a fixed point by a weighless cord, so that it can move to-and-fro under the action of gravity. As a weightless cord is unattainable, in the study of the pendulum, the cord or rod by which the weight is supported is assumed to have no weight.

TERMS USED in the study of the pendulum.

An *oscillation* or *vibration* is one complete to-and-fro movement of a pendulum bob.

The *amplitude* or a *vibration* is the extent of displacement of the pendulum bob from its position of rest.

The *period* of *vibration* is the time taken to make a complete vibration.

LAWS STATED.

1. The period of vibration is independent of the *weight* or material of the pendulum.

2. The periods of vibrations at any given place, are made in *equal times,* when the amplitude of vibration is small.

3. The period of vibration is *directly proportional* to the square of the *length* of the pendulum.

4. The period of vibration is *inversely proportional* to the square of the *number* of vibrations in a given time.

FORMULA FOR PENDULUM.

All these laws are included in the formula.

$$t = 3.1416 \times \textit{the square root of } \frac{l}{g.}$$

where t is the time of one swing in seconds, (3.1416) is the ratio of the circumference of a circle to its diameter, l is the length, and g is the acceleration due to gravity.

This formula enables one to calculate.

1. The *period* of any simple pendulum of known length.

$$t^2 = (3.1416)^2 \times \frac{l}{g}.$$

2. The *value* of the force of gravity.

$$g = (3.1416)^2 = \frac{l}{t^2}.$$

3. The *length* of a pendulum that vibrates in a given time.

$$l = g \times \frac{t^2}{(3.1416)2}.$$

In *solving problems* it is often convenient to compare other pendulums with the *second's pendulum,* which makes a single vibration in one second. Taking the value of g at New York as 980 cm., the length of the second's pendulum is 99.3 cm. or 39.1 inches.

From the laws of the pendulum.

$$\frac{t^2}{T^2} = \frac{l}{L}, \quad \frac{l}{L} = \frac{N^2}{N^2}.$$

. . t = period, l = length, n = number of vibrations in a given time.

USES of the Pendulum.

1. The most common use of the pendulum, is as a time keeper, as the vibrations of the pendulum are made in equal intervals of time.

2. The pendulum offers the most exact method of measuring the acceleration of gravity.

3. The velocity of falling bodies can be determined at any point, when the force of gravity is known.

4. By observing the difference in the length of a second's pendulum at the level of the sea and the top of a mountain, the density of the earth may be calculated.

Type Problem.

1. Determine the length in centimeters. of a pendulum that makes at New York a half vibration in 2 seconds.

$$l = \frac{g+2}{(3.1416} \quad 2, \quad l = \frac{gt^2}{(3.1416)^2} = \frac{980\times2\times2}{(3.1416)^2} =$$

397.10+ *cm. Ans.*

2. What is the length of a pendulum that makes 25 revolutions in a minute.

$$\frac{l}{L} = \frac{N^2}{N^2}, \quad l = \frac{99.3\times3600}{625} = 571.9$$

cm. Ans.

3. If a clock whose pendulum is 4 decimeters long gains 2 hours in a day; what must be done with it to make it keep correct time? It it loses 2 hours?

If it *gains* the pendulum should be lengthened so as to be

$$\frac{.4\times(24\times2)^2}{(24)^2} = .469 \textit{ meters long. Ans}$$

If it *loses* the pendulum should be shortened so as to be

$$\frac{.4\times(24-2)^2}{24} = .336 \textit{ meters long. Ans.}$$

Drill Problems.

1. What is the value of gravity at a place where a pendulum 2 meters long swings once in 1.5 seconds?

2. What will be the time of swing of a pendulum whose length in 50 cm., if gravity equals 980 cm. per second?

3. A pendulum vibrates 200 times in 15 minutes at New York. What is its length?

4. A clock having a pendulum 24.1 centimeters long, gains 20 minutes a day. What must be done in order to have the clock keep perfect time?

5. How long must a pendulum be to oscillate 4 times in 3 seconds? to oscillate 5 times in 3 seconds?

6. Determine the time of vibration of a pendulum 96 inches long.

7. Find the length of a pendulum that makes 3 oscillations while a pendulum 70 centimeters long makes 2 oscillations.

8. How will the times of vibration of two pendulums compare their lengths being 16 feet and 36 feet respectively.

9. A clock having a pendulum 5 centimeters long, loses 1 hour in 20. How long should the pendulum be in order to have this clock keep perfect time?

10. Determine the length of the second's pendulum at New York City.

Progressive Lessons in English. By SIDNEY G. FIRMAN, Superintendent of Schools, Glen Cove, N. Y.

These two books are intended to cover the field in composition, grammar and related studies usually designated as English. Superintendent Firman is in agreement with the majority of teachers in regard to the difficulties in English, but he disagrees with many in regard to the procedure in securing the desired results. Both books are planned to produce desired results through self-activity of pupils. This activity is practice in thinking and writing, and the practice is carried on consecutively on one kind of composition until the pupil forms a safe habit in thinking, in oral expression, and in written expression.

Some of the distinctive viewpoints exemplified in the books are that no attempt should be made to have pupils make outlines until a large amount of paragraph work has been done; that very little oral work should be given in a book, since printed oral work loses its value as spontaneous work; that only a limited amount of time should be given to composition work that is merely reproduction; that a knowledge of paragraphing comes only from a long and definite study of model paragraphs. In speaking of this last point, Mr. Firman says: "For a number of years educators have been insisting that pupils in the elementary school should be required to paragraph their written work; and while few have questioned the wisdom of this, a serious mistake had been made in assuming that paragraphing could be taught incidentally. This is contrary to experience, which has proved that paragraphing is difficult, even for high-school students, and not less so for pupils in the elementary school. Pupils learn to write paragraphs by writing paragraphs, not in a haphazard way, but according to a clear and definite plan. Things that are difficult are made easier by being made definite. In this book paragraphs are studied until the method of construction is clearly understood and then the pupils are required to write paragraphs similar to the models that are given. In fact, all of the written work, including the making of outlines, the writing of descriptions, narrations and expositions, is carried on in the same clear and definite way."

An author's theory is not always carried out, but it is a satisfaction to find that these two books are working manuals for pupils. The subject-matter is an invitation to come back to definiteness in plan, assignment, study, and drill. The tendency to teach from notes, pamphlets, and various text-books, has given variety to pupils, but it is doubtful that elementary pupils have profited by so much variety. Educators are coming to believe that pupils need persistent study of fundamentals before going into so much variety. These books furnish all the material that is needed for safe foundation work in the elementary schools and the high schools.

BOOK ONE has a list of selections for study and memorizing prescribed by the New York State Education Department for third, fourth, fifth, and sixth years; and BOOK TWO has selections for seventh and eighth years.

We feel that Firman's PROGRESSIVE LESSONS IN ENGLISH are rightly named, and we believe that the use of these books will produce results that have not been heretofore easily attained in the teaching of English.

Builders of Our Country. By GERTRUDE V. SOUTHWORTH. Book I for Fifth Grade and Book II for Sixth Grade.

These two books are types of the bio-

graphical study of history. The first book has twenty-five biographies of the most important builders of our country, from the year 1000 to the beginnings of the American Revolution. The second book carries on the work under the same plan, beginning with Patrick Henry and coming down to include George Dewey, Edison, Hoe, Carnegie, Clara Barton, and other prominent individuals. The style naturally appeals to boys and girls in the memory stage, and the plan of presenting the work in unities leaves a distinctive impression of each prominent person whose life is presented. Our readers are familiar with books of this type, and they will be glad to welcome these two books as a contribution to the introductory study of history.

A History of the United States for Schools. By ANDREW C. MCLAUGHLIN, Head of the Department of History in the University of Chicago, and CLAUDE H. VAN TYNE, Head of the Department of History in the University of Michigan.

The part of the title indicating that this book is for schools is the first hint that this is a text-book conforming to the conditions of scholarly effort. This idea is set forth strongly in the preface by the authors when they say: "This is first of all a text-book and not a story-book. We make no apology for the omission of many of the 'yarns' of American history. If history is worth reading at all, it is worth teaching as causal, vital, meaning history. We heartily approve of reading history for mere pleasure. History is, we believe, in many of its highest literary forms, most delightful and valuable 'mere reading,' but for serious study there are certain essentials which should not be disguished or palliated by facts which are only entertaining, and not essentially significant."

The table of contents, arranged in fifty-three chapters, suggests definite and serious study. The chapter headings throughout the book keep the essentials prominently before the student so that the continuity of the development is not broken. The style is direct, with the evident intention of making the historic truth of more value than the manner of expression. Many cuts are used to enforce the truth. The appendix has a list of important dates, questions on the respective chapters, the Mayflower Compact, and other sources of information for collateral study. The index, which is excellent in its completeness and arrangement for quick reference, indicates the proper pronunciation of difficult names.

This book differs from many other text-books, as already specifically stated in the authors' aim. The process of elimination gives space for fuller expression and interpretation of really important events. The book will certainly appeal to those who believe in making a serious study of American history.

ATKINSON, MENTZER & GROVER.

The Art Literature Readers. By FRANCES ELIZABETH CHUTTER AND EULALIE OSGOOD GROVER.

THE PRIMER, 112 pages, 30 cents.
BOOK ONE, 112 pages, 30 cents.
BOOK TWO, 160 pages, 40 cents.
BOOK THREE, 224 pages, 50 cents.
BOOK FOUR, 256 pages, 50 cents.
BOOK FIVE, 268 pages, 50 cents.

This series of readers is based upon a close and thorough correlation of art and literature. For many years school readers have presented selections relating to each of these subjects, but no other series of readers presents a graded course in the world's best literature il-

lustrated with the world's best art. Many of the selections are not found in other readers; and the selections presented in these readers are literary units rather than fragments. The apperceptive law of relation is strengthened by the group idea in literature and art. Both art and artist are closely related with their products by anecdotes, biographical sketches and portraits. The Whittier Section, for instance, contains his portrait, several charming biographical sketches, and representative extracts from his writings. The result is that the child gets the complete story of Whittier's life and feels Whittier's personality in a way that makes a lasting impression..

The PRIMER is based on famous paintings and familiar rhymes which deal with children's interests and activities. The vocabulary is only 258 words. The FIRST READER uses several pieces of literature. The illustrations are forty-two reproductions of paintings in colors by the duotype process. The SECOND READER introduces the biographical sketches of authors and artists. The authors treated are Robert Louis Stevenson and Henry Wadsworth Longfellow; the artists are Sir Joshua Reynolds and Rosa Bonheur. In the THIRD READER the artists treated biographically are Sir Edwin Landseer and Thomas Gainsborough. The authors treated biographically are Eugene Fields, Hans Christian Andersen Louisa May Alcott, Laura E. Richards. John G. Whittier, Lewis Carroll, Celia Thaxter, Lucy Larcom.

In the FOURTH READER the boys and girls are introduced to two of Spain's greatest artists, Don Diego Velasquez and Bartolome Esteban Murillo; and to eight of the world's most notable writers: James Whitcomb Riley, Frances Hodgson Burnett, Charles Kingsley, AEsop, Helen Hunt Jackson, George MacDonald, Dinah Mulock Craik, Ernest Thompson Seton.

The FIFTH READER, which completes the series, presents eleven sections: Oliver Wendell Holmes, Jean Francois, Millet, Juliana Ewing, Charles Dudley Warner, Jean Ingelow, Nathaniel Hawthorne, Jean Baptiste Camille Corat, Anna Sewell, Thomas Hughes, James Fenimore Cooper and Joel Chandler Harris.

Throughout the series, the illustrations, type and other mechanical features are in harmony with the artistic ideal.

GINN & COMPANY.

Home Geography. By ALEXIS EVERETT FRYE.

This book of 116 pages is a fascinating introduction to formal geography. The simple language makes it adapted to third year pupils but the direct value of geographical knowledge is in no way sacrificed to simplicity of language. The lessons cover home geography in its broad sense by bringing the knowledge into relation to life instead of following mere definitions alone. Thus under the heading HOME GEOGRAPHY, the air, the water, the soil, the uses of trees, and why laws are made are found among the fifty-one topics. The second division, WONDERS OF OUR COUNTRY, and the third division, GIRLS AND BOYS OF OTHER LANDS, are type studies made doubly interesting by description and illustration. Then the maps supplement the type studies by inviting definite location and also by making the book as a whole convey the characteristics of text-books on geography. Teachers and pupils will be grateful for this one book which satisfies an urgent need.

First Book in Geography. By Alexis Everett Frye.

The HOME GEOGRAPHY has a good companion in this FIRST BOOK.. The ex-

tension of geographical ideas implies the application of home conditions to other parts of the world. This FIRST BOOK IN GEOGRAPHY fits into the series theoretically and practically. The apperceptive law is admirably applied as the pertinent topics are presented in simple description, simple pictures and simple maps. Much stress is put upon the location of important places, and justly so in accordance with the modern demands in the teaching of geography. The scope includes the earth as a whole and then in turn North America, United States, etc.

In speaking so favorably of the style and the content of these two books, we do not mean to have our readers feel that geography is made interesting in the form of fairy tales. Not so at all adaptation is a remarkable feature of each book but real geographical knowledge is prominent in aims and results.

HINDS, NOBLE & ELDREDGE. Famous Poems Explained. By WAITMAN BARBE, Associate Professor of the English Language and Literature, West Virginia University.

"In reading with understanding two things are essential—a clear and full knowledge of the meaning of the piece read, and the vivid and definite use of the imagination on the part of the reader. This book aims to supply in some measure the means to the first requisite."

This opinion is quoted from the preface of this book which gives the needed explanation of sixty poems that count for culture in and out of school.

With a scholar's understanding and an artist's imaginative store, Professor Barbe has given to recognized masterpieces in verse all the depth of meaning and the emotional glow that belong to these poems. Sometimes it is by means of a tense historical setting that a poem catches fire. Sometimes a piognant circumstance in the author's life explains his lines.

The Charge of the Light Brigade, Hohenlinden, Old Ironsides, The Chambered Nautilus, The Old Clock on the Stairs and other poems for schools will have a stronger message to pupils on account of these explanations; and adults, too, will find a fuller meaning after having Professor Barbe's help on Poe's Ulalume, Longfellow's Reaper and the Flowers, Byron's The Night Before Waterloo, Emerson's In an Age of Fops and Toys, and Browning's Prospice.

The Speaker. Edited by PAUL M. PEARSON.

Here we have a solution of the problems of at least one department of High School work. "The Speaker" presents readings, short plays, orations and debates that are right for student use because they are *sound* and because they are *fresh*. Only the novel the drama, the verse of literary merit is used in the cuttings of this magazine. Yet in every case the selections have a grip upon the emotions of the ordinary listener.

The orations and debates in brief sum up the ideas of political and social leaders of the day. Bibliographies of discussions are given in almost every case.

As a quarterly magazine "The Speaker" is most uniquely helpful to the teacher. The back numbers, which are bound in cloth singly or in volumes of four numbers each, are of value in the school library because of their unfailing store of selections that are never doubtfully good.

A souvenir booklet bearing the luring title, "Made for You," is issued by the publishers for the convenience of the public which has a demand for "Speaker" material. It gives the classification, titles authors and sources of about one thousand selections of particular merit today.

THE MACMILLAN COMPANY.

The Teaching of Agriculture in the High School. By GARLAND ARMOR BRICKER, Assistant in Agricultural Education, Department of Agricultural Extension, College of Agriculture, Ohio State University.

With an Introduction by Dr. W. C. Bagley, Director o fthe School of Education, University of Illinois. Price, One Dollar net.

The necessity of teaching agriculture is admitted, but educators have not come to an agreement in either matter or method. The purpose of this book is to recognize agriculture as both a science and an art, and thus to put it upon a basis that is clearly defined. The author says that three sources of method come respectively from the teachers in elementary schools, from the college graduate, from agricultural schools, and from the high school teacher of science. It is time to harmonize these three sources, and such harmonization is the aim of this book.

Following are the chapter headings:

Chapter I. The nature of secondary agriculture.

Chapter II. The rise and development of secondary education in agriculture in the United States.

Chapter III. The social results of secondary agriculture.

Chapter IV. Secondary agriculture should be taught as a separate science.

Chapter V. The psychological determination of sequence.

Chapter VI. The seasonal determination of sequence.

Chapter VII. The organization of the course.

Chapter VIII. Aims and methods of presentation.

Chapter XI. Educational aims, values, laboratory and field work.

Chapter X. An illustrative list of classified exercises.

Chapter XI. Education aims, values. and ideals.

World Geography, One-Volume Edition. By RALPH S. TARR, Professor of Physical Geography, Cornell University, and FRANK H. McMURRAY, Professor of Elementary Education at Teachers' College, Columbia University. Price, $1.25.

The enumeration of the best features in modern text-books on geography gives at least ten characteristics worthy of mention. It is not necessary to give a list to readers who are already familiar with the best books, but we wish to say that this new book contains all of those desirable features. This one book avoids the useless repetition necessitated by a series of four or five boks. But another feature of greater value than avoiding repetition is the organization of all geographical knowledge around the central idea of interest to man. Instead of treating each state, country, or continent as an entity, all are brought together under the supreme test of the welfare of humanity. It is surprising and gratifying to see how important matters are treated in detail without making a book that is cumbersome to handle. The authors and the publishers have made a distinctive contribution to organized knowledge.

ISAAC PITMAN & SONS.

Course in Isaac Pitman Shorthand.

This book of 241 pages is an exposition of the author's system of phonography. It is designed for use in business colleges and high schools, and also for self-instruction. The work is divided into forty lessons. The plan embodies the selection of essentials, explanation.

practice, drill and review,—a plan tha deserves recognition in all teaching. The regular lessons are supplemented by sixty pages of helpful material on Grammalogs and Contractions, Phonographic Alphabet, Phraseograms, Law Phrases, and other pertinent information.

Pitman's Commercial Spanish Grammar. By C. A. TOLDERANO. 246 pages. Price, one dollar.

This contains in its exercises and conversations an abundant commercial phraseology, and at the same time a thorough treatise on Spanish Grammar. Those rules and illustrations which would be too cumbersome in the body of the book are given in appendixes which the student will find of extreme use for reference. A synopsis of Spanish conjugations compiled on an original plan, will be found of great aid in mastering the Spanish irregular verbs. It is both a practical commercial grammar and a complete grammar of the Castilian language, written by a competent master as well as a commercial man of long experience.

RAND, McNALLY & CO.

A Primary History, Stories of Heroism. By WILLIAM H. MACE, Professor of History in Syracuse University. Illustrated by Homer W. Colby. Portraits by Jacques Reich and P. R. Audibert.

"The aim of this book has been to bring before the minds of the pupils a series of great historical characters. These men do interesting things from the beginning to the end of life. Because their deeds are concrete and physical they are easily pictured in imagination. To this end the author has endeavored to make the language used simple, vivid, and picturesque. Nothing should stand in the way of the imagination, for, as a rule, that which the pupils cannot picture they cannot understand and cannot remember."

This expression of aim by Professor Mace is assurance in advance that his PRIMARY HISTORY will conform exactly to that ideal of an elementary book. All through the 396 pages, we feel the influence of human beings who were not unlike ourselves excepting that they were able to achieve more. The simple division of the book into three periods is the first invitation to boys and girls who are ready for the biographical study of history. The three divisions are: THE PERIOD OF DISCOVERY OR COLONIZATION, THE PERIOD OF REVOLUTION, AND THE PERIOD OF DEVELOPMENT AS A NATION.

The wording of each subdivision is an epitome of a whole epoch of history. Instead of using the ordinary formal headings, we find such inviting words as these: "THE MEN WHO SUCCEEDED WHERE COLUMBUS FAILED: MAGELLAN WHO PROVED THAT THE WORLD IS ROUND BY SAILING AROUND IT; CORTES, WHO FOUND THE RICH CITY OF MEXICO; PIZARRO, WHO FOUND THE RICHEST CITY IN THE WORLD." Under the second division, we find this headings: "THE MAN WHO HELPED WIN INDEPENDENCE BY WINNING THE HEARTS OF FRENCHMEN FOR AMERICA: BENJAMIN FRANKLIN, THE WISEST AMERICAN OF THIS TIME." Under the third division we have "THE MEN WHO SAVED THE UNION: STEVEN A. DOUGLAS, THE LITTLE GIANT; ABRAHAM LINCOLN, THE LIBERATOR AND MARTYR; ULYSSES S. GRANT, THE GREAT GENERAL OF THE UNION ARMIES."

Each chapter is followed by Suggestions Intended to Help the Pupil; in which suggestions we find The Leading Facts, Study Questions, and Suggested Readings. Type, illustrations, maps, arrangements, and other mechanical features are additional evidence that Professor Mace understands the needs of

elementary pupils. Considering all the features of this book, we are glad to give it our strongest commendation.

CHARLES SCRIBNER'S SONS

Indoors and Out. By SARAH M. MOTT and PERCIVAL CHUBB, Ethical Culture School, New York City. A Nature and Dramatic Reader for Primary Grades, 118 pages. New York City list No. 6795. Price, 24 cents.

This supplementary reader contains prose reading lessons, poems, dialogues, and dramatizations on topics of outdoor and indoor life. It is not meant for a drill book, but is designed for a "recreation reader," a means of escape from the atmosphere of drill into a realm of freer and more eager effort on the part of the child. Rhyme, dramatic interest, songs, games and manual activities are utilized under the general principle "that the reading and the literature of the child ought to be associated in one composite form with his natural activities and interests." The co-ordination of mental and motor activities in this way is sound pedagogy; but, beyond the realm of theory, the material in the books is so close to childhood's needs that a vigorous, joyful interest is sustained from chapter to chapter.

Elementary History of the United States. By WILBUR F. GORDY. For grades 6A and 6B. New York City list No. 6154. Price, 52 cents.

This text-book places definite emphasis upon the important facts that pupils of the sixth year should know. The style is simple, clear, interesting; the illustrations are pertinent; the maps are excellent, being free from all unnecessary and distracting details. The author is already known for his clearness of method of teaching, but this book is especially good in its direct appeal to the pupils. The side topics, the summaries called THINGS TO REMEMBER and the questions and suggestions entitled TO THE PUPIL, at the end of each chapter, make this history valuable to teachers and pupils in solving the problem how to study.

Morey's Arithmetics. By CHARLES W. MOREY. Master of Highland School, Lowell, Massachusetts.

The attitude toward the teaching of arithmetic has undergone so many changes during the last ten years that it is not prudent to express the opinion that any one text-book is the best on the market. As a matter of fact, mathematicians do not agree; but the needs of the classroom, as expressed in the opinions of teachers, do approximate a definite demand. In reviewing Morey's Arithmetic we wish to make known the characteristic features of the series, so that our readers may judge for themselves. The characteristics are summarized:

1. A minimum of theory and a maximum of practice. The author believes in teaching the fundamental processes of arithmetic so thoroughly that accuracy and rapidity become automatic habits. For this purpose, there is an abundance or oral and written work in the fundamental processes. The author claims that it is unnecessary for teachers to supplement or rearrange the drill work contained in his books.

2. The topical plan. In each book, the pupil is given as much work as he is able to grasp; then frequent and thorough reviews are furnished, and each book contains in review all the topics presented in the preceding books.

3. Elimination of long explanations by memory process. Mr. Morey believes that the principles of arithmetic, accuracy and facility in applying them, are best learned through working a large number of comparatively easy problems.

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are studied in order, they are al comparatively easy for the pupils. Thus any problem may be difficult in itself, but it is not too difficult for the pupil who has worked all the preceding problems.

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Shorthand at Columbia University.

That shorthand has been elevated to the high plane to which it belongs is evidenced by the fact that Columbia University of the City of New York has added, as a permanent feature, a secretarial course to its Extension Teaching curriculum. During the past year, the classes have been exceptionally successful and the demand for high class secretaries that was heretofore impossible to fill gives promise of now being met.

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Regulations. Copies of Handbook No. 7 giving the regulations for teachers' examinations for 1912 will be sent free upon application to the State Education Department, Albany, N. Y.

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By T. J. McEVOY.

This prominent place in the Magazine is taken to clear some matters which seem to be misunderstood. An explanation in this last number in Volume IV should obviate unnecessary correspondence hereafter.

A Consolidation.

In April, 1911, Catholic School Work, a magazine published in Manhattan, was merged with the McEvoy Magazine. Under that agreement, my publication for May and June, 1911, and all the numbers in Volume IV have been sent to the subscribers for Catholic School Work. In this way I have tried to give subscribers equivalent value for their subscriptions for this school year and also for the numbers of that magazine not issued in the last school year. All obligations are terminated with this issue.

School Work Purchased.

In December, 1911, I purchased Shool Work from Miss Olive M. Jones, Principal of Public School No. 120, Manhattan. That magazine became well known during the nine years of publication but the irregularity of the issues during the last two years caused dissastisfaction that is not easily overcome. Miss Jones transferred to me a verified list of subscribers, and my consolidated magazine for January and for March was forwarded to those subscribers. The January number was an extra one issued in the hope of satisfying subscribers who had received no issues of School Work since June, 1911. The March number was sent to seven hundred teachers whose subscriptions expired with the January number, which corresponded to Volume X, No. 1 of Shool Work. No subscriber was asked to pay thirty cents for that March number but a few voluntarily did so. The March number was sent as an invitation to renew subscriptions, but the few replies were postal cards with the negative adverb underscored three times.

Complaints About School Work.

It is surprising that so many local teachers are careless about their subscription accounts. Principals, associate teachers or agents accept payments without giving receipts, and then all responsibility is placed upon the publisher. But there are complaints from several subscribers who hold receipts; and all such subscribers should write to Miss Olive M. Jones, 187 Broome Street, New York City, giving data relating to amount paid, date of receipt, and number of copies due. I have mailed the January number and the March number to every subscriber on the transferred list, as I have said; and I have adjusted several complaints, but no more complaints will be adjusted without an order from Miss Jones.

Direct Payment.

The one way to protect yourself is to pay your dollar to the publisher and get his official receipt. Then your claim will be honored and his small profit will not be squandered in unsatisfactory correspondence. This suggestion is intended especially for New York City teachers.

Expiration of Subscriptions.

This number marks the expiration of nearly all the regular subscriptions. Followers of the McEvoy Magazine have the complete volumes bound for reference, and subscriptions are made from July 1 to July 1 to cover the volumes. This plan is recommended to all subscribers, since each volume constitutes a unit in the educational plan this magazine is attempting to develop.

(Continued on page VI.)

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Plain Facts for Subscribers.

(*Continued from page IV.*)

The work of revising the mailing list will be simplified if renewals are made before the middle of July. The Septembber number will not be sent to those whose subscriptions have expired. This policy of discontinuance is unsatisfactory to many who wish to remain on our list but still it is the only fair policy for those who do not wish to renew their subscriptions.

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The September Number.

The term plans for fourth year and seventh year are desired by many teachers. The September number will present that work and subsequent numbers will complete the term plans for the elementary grades. The term plans for the fifth year and the first half of the sixth year were published in the March number; the work of the sixth year is completed in this number; and it is probable that the next three numbers will complete the series, thus presenting the essentials of eight years of elementary school work in five consecutive issues of this maagzine. Though the work is based on the New York City Course of Study, the greatest demand for it is outside of this city. Such comprehensive treatment of essentials is welcomed as suggestive guidance wherever progressive and tactful educators are at work.

Price and Value.

The March number was prepared with great care in the hope that all our readers would find the material closely associated with the teaching process from kindergarten to college. The individual estimates of value varied from "absolutely worthless to me" to "worth five hundred dollars to me". Now

(*Continued on page VIII.*)

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Plain Facts for Subscribers.

(*Concluded from page VI.*)

what is the criterion of value? Is it liberal education to cut elementary education into sections corresponding to grades and then reject everything outside of the grade one is teaching? Yet that is what some teachers do, and then we wonder why pupils fail when they enter the graduating class. Better look for the lines of relationship runing through the whole elementary course, and pass backward and forward over those lines until pupils feel the unity of the work throughout the eight years. Then the essentials for one grade are essentials for all grades, the variation being only in extent of interpretation and application.

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The Adelphi College of Brooklyn, N. Y., announces a Summer Course in Phonography and Touch Typewriting to comence on July 8 and continue until August 16. The course in elementary stenography will consist of a thorough training in the theory of stenography with the object of preparing the student to undertake speed dictation. The text-book used will be "Course in Isaac Pitman Shorthand" and the rules of the text will be interpreted in the light of the general basic principles of shorthand. The course in advanced stenography will presuppose a knowledge of the theory and will begin dictation at the rate of about fifty or sixty words per minute. A good stenographic vocabulary will be acquired and many of the abbreviating devices and reporting practice will be introduced. The typewriting course will be opened to both elementary and advanced students and the instruction in this subject will aim to give the student a thorough command of the machine by "touch". The text used will Charles E. Smith's "Practical Course in Touch Typewriting."

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Spring Lake, New Jersey, is another place that suggests freedom and refinement, but the difficulty is in securing accommodations. *The Misses Burke* of Lakewood will open an attractive house on Warren Avenue early in June. Guests in Lakewood consider it a privilege to be accommodated at the Berkshire-in-the-Pines, and the same attitude of satisfaction will be found in the summer home on Warren Avenue. Reservations may be secured by addressing the Misses Burke, 316 Third Street, Lakewood, N. J.

Middlebury College.

If an enterprising hotel man had the facilities placed at the disposal of Director McFarland of the Middlebury College Summer Session, he would be writing "no more rooms" long before July. Here is a marble residence hall, for example, new only a year ago, a building equal in every appointment to hotels which charge $5.00 per day, on a breezy hill commanding views of both Green Mountains and Adirondacks, with good board promised, at rates within a teacher's purse. For men there is a quaint colonial gray stone dormitory, with rooms en suite. College tennis courts, boating on the fairest river in Vermont, mountain expeditions and other recreations are under the direction of a member of the College Faculty. If a teacher wishes just to loaf in congenial surroundings, he could hardly find a better place than Middlebury.

But Director McFarland evidently does not expect his patrons to loaf. He is Professor of Secondary Education and has provided a program of special value to teachers. Middlebury has a State appropriation for a Department of Pedagogy, and is laying emphasis on teacher training. The seriousness of the academic work is guaranteed by the action of the Middlebury Faculty in allowing College credit towards degrees for certain summer session work. Apparently a college graduate should attain a Master's Degree in about three summers.

Only a few of the old line colleges of New England have undertaken summer work. Middlebury was the first in Vermont, and the fourth session promises to surpass its predecessors in value and popularity.

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EDUCATIONAL NOTES.

"The Friendship of Nations," by Lucile Gulliver, published by Ginn & Company the first of April, is significant of the growing sentiment in America in favor of peace and arbitration. The book is intended for younger readers and aims to give in an interesting fashion the achievement of the world in art, science, commerce, and industry, the purpose being to show the debt of each country to the others. The author also traces the growth of friendly relations between countries, giving special attention to the story of the Hague Conferences. Her little book will be found a very readable and illuminating history of peace.

PHONOGRAPHS PLAY FOR FOLK DANCING.

Phonographs as labor-saving devices and means of economy are likely to play an interesting role in connection with the folk dances taught under the Board of Education. Miss Elizabeth Burchenal, inspector of athletics of the girls' branch of the Public Schools Athletic League, has had music for several of these dances reproduced on phonograph records and if the schools use these records it will often be possible to have one teacher instead of two in charge of folk-dancing classes.

The folk dances are instructive and help to gladden the hearts of thousands of immigrants who yearly throng to these shores. Russian, Irish, Scotch, Hungarian, English, and other national dances are taught the children, and mothers and fathers with delight learn that their children are being taught the dances they themselves once loved to respond to in the old country years ago.

Miss Burcenal has made arrangements with one of the phonograph companies and she has had records prepared for the following dances; Reaping the Flax, Highland Fling, Irish Jig, Ox Dance, Csardas, a Russian dance, and Carousel. —*The Globe.*

The foregoing news item adds interest to what is said by *The Bremner Company* on page XI. In January and March that firm spoke of the value of the Victor instruments as supplementary aids in education, and this test by the Board of Education seems likely to prove even more than the Bremner Company claimed.

Another mechanical aid in education is the Edison Home Kinetoscope announced by J. H. Hallberg on page XV. The machine is scientific in construction and complete in equipment. The pictures are printed on non-inflammable film. Eighty feet of this film contain as many pictures as 1000 feet of the film used in theatres, and will give as long a performance—about sixteen minutes. A six-foot picture can be thrown upon the screen. The pictures are sharp, clear and brilliant. The films may be exchanged for other films upon payment of a small exchange fee.

NEW PRIMER.

Ellen M. Cyr (Smith), whose methods have revolutionized the teaching of reading and literature in the grades, is to publish a "New Primer" (Ginn and Company) this spring, embodying her latest ideas—"play lesson's and nursery rhyme dramatics—and copiously illustrated with drawings in color by Ruth Mary Hallock. The Cyr readers have long been on the list of educational best-sellers, having sold into the millions of copies.

BURKETT ON AGRICULTURE.

C. W. Burkett, the editor of the American Agriculturist, recently said apropos of the Cahill bill, passed last year, requiring the study of agrtculture in the Ohio schools: "Agriculture should be taught not only in the schools of Ohio but in the public schools of every state. The idea is not to teach agriculture simply to make farmers of country children, but to teach all children that they may know something of country things. Our country boys and girls in the past have been taught about city things and in terms of city things. They will now have a chance to learn of country things in terms of country things." Mr. Burkett is himeself the joint author of a treatise on "Agriculture for Beginners" (Ginn and Company) and successful text books on agriculture which the new movement has called forth.

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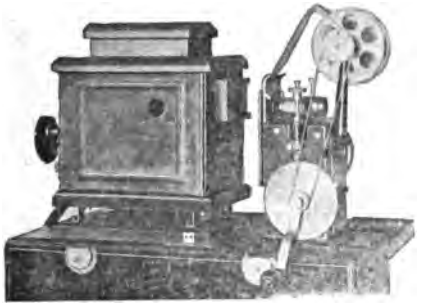

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EXAMINATIONS FOR LICENSE NOo. 1.

On June 10 and 11 applicants for License No. 1 will have another opportunity to show the difference between efficiency and boasting. One year ago we invited local students to take advantage of the special help offered by the McEvoy School, and the offer was accepted by those who believe that success can be earned by systematic work. The result is that our students earned first and second places on the men's list and eight out of the first thirteen places on the women's list. Mr. William V. Hagendorn, 55 Emma Street, Maspeth, N. Y., won the honor rating of 86.583.

William V. Hagendorn.

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Ten books will be sent prepaid for $10. This outfit covers English, history and principles of education, methods of teaching, drawing, sewing, music and physical training.

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Saturday, May 11, from 10 to 12:30.

Saturday, May 25, from 10 to 12:30.

On May 11 the sessions will cover Group I for License No. 1 and also music; on May 25, Group I and Physical training. Fee, $2 a session.

OUR FINAL REVIEW.

Saturday, June 8, from 10 a. m. to 5 p. m.

10:00 to 11:00, English, Mr. Newton.

11:00 to 12:30, Methods, History of Education, Mr. McEvoy.

1:00, Sewing, Miss Butler.

2:00, Drawing, Mrs. McLaury.

3:00, Music, Miss Fowler.

4:00, Physical Training, Miss McGill.

Fee for morning session, $3; afternoon session, $3; or $5 in advance for the whole day.

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THE SUMMER SCHOOL AS AN EDUCATIONAL FACTOR.

When the future historian writes of the last years of the nineteenth century he will no doubt mention as one of the significant educational movements the establishment of summer schools. Long summer vacations were provided in the past chiefly because our ancestors were farmers and the young people were needed in the summer to help on the farm. Our long vacation is largely a relic of the days of our grandfathers. We are now beginning to seek profitable ways of using that period.

The needs of teachers are somewhat different from the needs of younger students. They want to get a supply of ideas to be used in a particular way, rather than to acquire power and learn the methods of scholarly work. For that reason the short term is especially adapted to them. It takes time to grow, it does not take so much time to get. The college professor must make allowance for growth, and therefore does not give matter as fast as he can to his college students, but when he has a class of teachers or others who wish to get all of the material they can in a short time and reflect on it afterwards, he selects the best he has for that class. If he is fitted to the requirements of summer school work he will put nearly as much into a short course as he would under other circumstances into a longer one.

One of the greatest teachers in America has said that a scholar should be able to tell all he knows on a subject in one book, or in one chapter, or in one paragraph if need be. This is perhaps putting it too strong, but the ability to condense or expand is one of the marks of a good teacher. The summer term offers condensed courses and that is why it is so valuable for those who wish a large amount of matter, to be digested afterwards. —*Exchange.*

THE UNIVERSITY OF VERMONT Summer School
July 1 to August 9
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Cortland Summer School

CORTLAND, NEW YORK

Thirteenth Annual Session, 1912

The Thirteenth Annual Session of the Cortland Summer School will be held in Cortland, N. Y., July 9 to August 23, 1912.

Courses. The courses of instruction cover the work required for entrance to high schools and teachers' training classes, for all grades of teachers' certificates, and also for teachers who wish to review subject matter and methods to prepare for more efficient teaching.

Tuition. The tuition has always been remarkably low so as to allow every student the full advantages of the school. This same policy will be continued for the courses for the full term of five weeks as follows; For preliminary certificates, $3.50; for elementary, academic and rural school renewable certificates, for one subject, $5; for two subjects, $6.00; for three or more subjects, $7.00; for state certificate, $8.00. The tuition of $8.00 allows students to take the entire course for state certificate for six weeks. Tuition payable at time of registration. The special courses will be free to those paying the regular tuition.

Board. Good room and board can be secured with private families for $3.50 to $4.00 per week. Room without board $.50 to $1.25 per week.

Examinations in Cortland. The regents examination and the state examination will be held in Cortland in August, 1912.

Books. Students should bring their own text-books in all subjects they wish to pursue. Any good text-book will do for most of the work. When uniformity is desired, a list of books preferred will be given.

Regulations. Copies of Hand-book No. 7 giving the regulations for teachers' examinations for 1912 will be sent free upon application to the State Education Department, Albany, N. Y.

Success. You have heard, of course, about hundreds of teachers who have secured their certificates after attending the Cortland Summer School. Several of our students, who held second grade and training class certificates, completed the additional subjects for a first grade certificate after attending one session, and for a state certificate after attending two sessions. You or your friends can do likewise.

Notice to Others. If you do not need this announcement, you can do a double service by handing it to some deserving teacher who needs help. Thank you.

Information Free. Whether you come to our school or not, write if you think we can aid you in any way. A booklet and further information will be sent free.

L. J. McEvoy, - Cortland, New York

"Come, Let Us Live With Our Children"

PARENTS' ASSOCIATION, P. S. 4, THE BRONX

ORGANIZED

The Parents Association of Public School 4, the Bronx, was organized in 1908 and incorporated in the same year.

RELIEF

We investigated cases of absence from school that were due to parents' inability to provide necessities. Children who without our help could not have attended school, were thus enabled to come. At least 160 cases were investigated by us in the past three years. 80 of these cases received assistance. Quite a sum of money was spent for this purpose.

AID TO TEACHERS

We helped the school by contributing toward the defraying of expenses of running the school paper and of carrying out the Arbor Day exercises. Through our co-operation, the school was able to get from the Department of Parks, twenty-four trees which were planted in front of the school.

In 1908 we obtained permission from the Park Commissioner to use the (Crotona) park pavilion as a class-room for aenemic children.

We have helped the various children's clubs organized in the school by furnishing them with material (leather, wood, iron) and tools.

During the school year ending June 1910, we supplied milk to aenemic children.

OUR BELIEFS.

It is our opinion that the school is good to the extent that the parents realize its value and cooperate in its work. We believe that a parents' organization forms the moral backbone of the community in which the school is located. We have therefore helped to spread the idea. In the past two years we have helped to organize ten other parents' organizations in various parts of the city.

We believe that it is of the greatest importance to bring home to parents a knowledge of the work actually done in the schools. The school authorities could get what they asked for if the great body of people were awake to the needs of the schools. We have, therefore, labored for the establishment of the Federated Association.

It is our aim as soon as we have the necessary means to establish a social settlement which shell serve as a civic center to our neighborhood.

A SQUARE DEAL FOR THE CHILDREN.

1. We want more parents associations.
2. We want a stronger and bigger Federated Association of parents associations.
3. We want closer cooperation between the parents and the schools.
4. We want the best teachers for our children that money can get. We believe that in a democratic community the best minds should influence the greatest number.
5. We want more schools, smaller classes, and a full day for all children of school age.

We believe that there is no better work to which parents of this city can turn their serious attention than the work of education. Since the organization of the association we have enrolled 600 members. The strength of our beliefs and of our wants is a reality.

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Thoughts for Today.

Walk often o'er the path between thyself and thy friend or the weeds will grow up and choke it.—*Norwegian Proverb.*

The better you understand yourself, the less cause you will find to love yourself.—*Thomas A. Kempis.*

Credulity is perhaps a weakness almost inseparable from eminently truthful characters.—*Tuckerman.*

Solitude is as needful to the imagination as society is wholesome for the character.—*Lowell.*

The bounds of a man's knowledge are easily concealed if he has but prudence.—*Goldsmith.*

The greatest hatred, like the greatest virtue and the sorest dog, is quiet.—*Jean Paul.*

The bravest are the tenderest, the loving are the daring.—*Bayard Taylor.*

That man is learned who reduceth his learning to practice.—*Hitopadesa.*

The greatest of faults, I should say, is to be conscious of none.—*Carlyle.*

If a man wishes to become rich he must appear rich.—*Goldsmith.*

Too elevated qualities often unfit a man for society.—*Chamfort.*

Climbing is performed in the same posture as creeping. —*Swift.*

The noblest mind the best contentment hath.—*Spenser.*

Coming events cast their shadows before. —*Campbell.*

To learn of a fault is an opportunity to add a new line of beauty to the life.—*Anon.*

Prayer is not an effort to get our Father to think as we do, but an effort to think as He does.

Half the cruelty of the world is the direct result of stupid incapacity to put one's self in another's place.—John Fiske.

The kindest and the happiest pair
Will find occasion to forbear,
And something every day they live,
To pity, and perhaps forgive.
—*Cowper.*

Life is not the living, merely,
Till the specter points the grave;
But the fostering, sincerely,
Of the talent nature gave.
—*Aubrey Lansion.*

Cultivate forebearance till your heart yields a fine crop of it. Pray for a short memory to all unkindness.—*Spurgeon.*

The flower which Bethlehem saw bloom
Out of a heart all full of grace,
Gave never forth its full perfume
Until the cross became its vase.
—*Father Ryan.*

O teach me, Lord, that I may teach
The precious things Thou dost impart;
And wing my words that they may reach
The hidden depths of many a heart.
—*Havergal.*

The greatest thing a man can do for his Heavenly Father is to be kind to some of His other children.—*Drummond.*

I have a good deal of respect for the old woman who, in time of war, started out with a poker when the enemy was approaching. She was asked what she could do with that, and replied, "I can show them which side I am on."—*D. L. Moody.*

A little spring had lost its way along the grass and fern.
A passing stranger scooped a well, where weary man might turn;
He walled it in and hung with care a ladle at its brink;
He thought not of the deed he did, but judged that weary toil might drink.
He passed again, and lo! the well, by summers never dried,
Had cooled ten thousand parching tongues, and saved a life beside.

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ANSWERS.

1. A common fraction has a numerator and a denominator. A decimal fraction has a decimal point for the denominator.

2. A common fraction is like this 2/5 and decimal fraction is .20.

3. In a common fraction you have a numerator and denominator, in a decimal fraction you have only a numerator with a decimal point front of it.

4. A common fraction is just a fraction written like this 2/3. A decimal fraction is a few numbers with a decimal point in front like this .16.

5. A common fraction is altogether different from a decimal fraction.

6. A common fraction has only two places and a decimal fraction has no places.

7. A common fraction is a whole number for its numerator and a whole number for its denominator. A decimal fraction is a whole number for its numerator and nothing for its denominator.

8. A decimal has a decimal point in it.

9. A common fraction is to be reduced to lowest terms.

10. The difference between a common fraction and a decimal is the same.

11. A common fraction is when you multiply, and a decimal fraction is when you divide.

12. The same thing except a decimal fraction is written different.

13. A common fraction is one whose numerator is larger than its denominator. A decimal is a number with a dot in front of the number.

15. You write the decimal fraction with a dot and no bottom number. But a common fraction you have the bottom number and no dot.

16. A common fraction is a number that looks I don't no.

Other Diversion.

A Child's Question.

"Pa, do cows hae souls?"

"Of course not."

"Then what part does the sole leather [illegible]?" *Boston Transcript*

Remember the Accent.

"Queen Mary," said the teacher to the class in the history lesson, "loved France so much that she declared the word Calais would be found written on her heart after she was dead."

Pausing a moment the teacher looked at a boy steadily.

"Jimmy Smith," she said, "you were not listening."

"Oh, yes, I was," Jimmy replied.

"Well, what did Queen Mary say would be found written across her heart?"

"Kelly," was Jimmy's triumphant reply." —*Tit-Bits.*

A Faithful Office Boy.

The manager turned to the new boy.

"Here, George," he said. "Go into the next room and look up 'collaborate.' I'm not quite sure about the spelling."

The boy disappeared and did not return. The manager put the letter aside and took up some other duties. Presently he remembered the boy, and went out to look for him. He found him studying the big dictionary with great intentness.

"What are you doing, George?" he asked.

The boy looked around.

"I forgot the word you told me, sir," he replied, 'an' I'm looking through the book to find it."

The manager gasped.

"How far have you got?"

"I'm just finishing the second page, sir."

She Was Next.

A Cleveland woman, who has a gem of a servant in the shape of a Swedish girl not long over, recently gave the domestic an afternoon off to enable her to attend a matinee at one of the local theatres.

The Swede returned at an unusually early hour.

"Why didn't you wait to see the entire performance?" asked the mistress, surprised.

"Baycause, ma'm," the girl explained, "it ban on program that Act III bon the same as Act I. I no want to see same thing twice!"—*Brooklyn Life*

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Continental Congress.

Our readers recall that the December number was devoted to public speaking and that a simple dramatization, THE CONTINENTAL CONGRESS, was recommended for graduating exercises. Miss Elizabeth M. Fleming of P. S. 21, Richmond, says that pupils, teachers and patrons were happy January 30 because the exercises were a success. In the first place, the choice of material was good; and in the second place, teachers and pupils worked together,—a condition that indicates much in school organization. Miss Fleming had charge of the exercises but her associates shared liberally in the work: Mr. Lucien Hyde in charge of assembly music, Mrs. Alcott accompanist; Miss Hubbard directed the Indian Club drill and Miss Donovan taught the folk dance; Miss Dowling designed the costumes; Mr. Miller, Miss Stickle and Miss Fleming developed the forensic eloquence of the young statesmen.

At the close of the exercises Mr. Egbert of the Local Board spoke feelingly of the real merit of the work, and then Principal Silberstein graciously put all the credit upon teachers and pupils.

8B BOYS, P.S. 21, PORT RICHMOND, N. Y., IN CONTINENTAL CONGRESS,
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NEW BOOKS ADDED TO THE SUPPLY LIST

1912

Supply Book Index Numbers

ENGLISH

6707 Arnold and Kittredge's The Mother Tongue, Book I, Revised (New York State Edition) (4A-6B)
6708 Kittredge and Arnold's The Mother Tongue, Book II, Revised (New York State Edition) (6A-8B)
6709 Arnold's With Pencil and Pen (New York Edition) (3A-4B)

GEOGRAPHY

6717 Frye's First Book in Geography (3A-4B)
6718 Frye's Leading Facts of Geography (New York State Edition) (5A-7B, 8B)

MATHEMATICS

6725 Breckenridge, Mesereau, and Moore's Shop Problems in Mathematics (Vocational schools)
6746 Wentworth & Smith's Arithmetic, Book I (3A-5B)
6747 " " " Book II (5A-6B)
6748 " " " Book III (7A-8B)

MUSIC

6750-6753 The Coda: Supplementary Music for Schools
(A complete catalogue of The Coda will be mailed on request.)

READERS

6761 Blodgett's Readers by Grades, Book I (1A-1B)
6762 " " " Book II (2A-2B)
6763 " " " Book III (3A-3B)
6764 " " " Book IV (4A-4B)
6765 " " " Book V (5A-5B)
6766 " " " Book VI (6A-6B)

SUPPLEMENTARY READERS

6808 Noyes and Ray's Little Plays for Little People (2A-3B)
6847 Patri's Pinocchio in Africa (3A-5B)
6860 Lansing's Page, Esquire, and Knight (6A-6B)
6872 Allen's Industrial Studies (7A-8B)
6875 Franklin's Autobiography (Montgomery and Trent) (7A-7B)
6877 Cooper's The Deerslayer (Lansing) (7A-8B)
6878 Greenwood's Merrie England (7A-7B)

SPELLING BOOKS

6938 Aiton's Descriptive Speller, Volume I. Parts I and II (3A-4B)
6939 " " " Volume II. Parts III-VI (5A-8B)

REFERENCE BOOKS FOR TEACHERS

6913 Johnson's What To Do At Recess
6920 Newton's Introductory Sight-Singing Melodies

GINN & COMPANY, Publishers

70 Fifth Avenue **Borough of Manhattan, New York**

McEVOY MAGAZINE
INCLUDING
SCHOOL WORK and CATHOLIC SCHOOL WORK
Published September, December, March and June
Yearly subscriptions, $1.00 in advance; single copy, 30 cents.
THOMAS J. McEVOY, Editor and Publisher,
Box 73, Station L. 6 Third Avenue, Brooklyn, N. Y. Telephone, Main 5342
Entered as second class matter at the Post Office, Brooklyn, N. Y., October 3, 1911.

McEvoy Magazine, Vol. IV, No. 4. JUNE, 1912 School Work, Vol. X, Nos. 3 and 4

UNITED STATES

AN OUTLINE OF ESSENTIAL FACTS

By MATILDA V. MELLADY, P. S. 81, Queens, New York City

UNITED STATES AS A WHOLE.

LOCATION.

Central part of North America.
Direction from other countries of N. A.
Lies wholly in the north temperate zone.

EXTENT.

From 67° to 125° west longtitude.
From 25° to 49° north latitude.

AREA.

Including Alaska, about 3,500,000 square miles.

BOUNDARIES.

North: Canada, Great Lakes, and St. Lawrence River.
East: Atlantic Ocean.
South: Mexico, Gulf of Mexico and the Rio Grande.
West: Pacific Ocean.

COAST LINE.

U. S. has a long coastline, very irregular. More broken up on the Atlantic than on the Pacific Coast.

GULFS, BAYS.

Gulf of Mexico, south of the U. S.
Gulf of California, south of California.
New York Bay, southeast of New York.
Cape Cod Bay, southeast of Massachusetts.
Massachusetts Bay, east of Massachusetts.
Chesapeake Bay, south of Maryland.
Penobscot Bay, southeast of Maine.
Narragansett Bay, southeast of Rhode Island.
Delaware Bay, east of Delaware.
Galveston Bay, southeast of Texas.
San Francisco Bay, west of California.

STRAITS.

Florida Strait separates Florida from West Indies.
Mackinac Strait separates the Michigan Peninsulas.

CAPES.

Cape Cod, eastern extremity of Massachusetts.
Cape May, southern extremity of New Jersey.
Cape Henry, eastern extremity of Virginia.
Cape Charles, eastern extremity of Virginia.
Cape Hatteras, eastern extremity of North Carolina.
Cape Fear, southeastern extremity of North Carolina.
Cape Sable, southern extremity of Florida.
Cape Mendocino, northwestern extremity of California.

PENINSULAS.

Florida, southeastern part of U. S.
Lower California, southwestern part of U. S.
Michigan, north central part of U. S.

SURFACE.

Divided into four sections: Coast Plain, Appalachian Highlands, Central Plain and the Western Highlands.

1. Coast Plain.

Atlantic and Gulf sections. Drained by many short rivers.

2. Appalachian Highlands.

Long and narrow. Plenty of rain here.

(a) Eastern belt is a low plateau region called the "Piedmont Belt."

(b) Middle belt is the most rugged. Contains many mountain ranges. (Find on map.)

(c) West of the middle belt lies the broad Allegheny plateau, deeply cut by numerous streams, some of which form the headwaters of the Mississippi system, but others, like the Hudson, the James, and the Susquehanna, find their way to the Atlantic Ocean.

3. Central Plain.

Lies between the highlands. About one-half is in the U. S.

Divided into:

(a) Prairie Region, which produces grain, meat and dairy products.

(b) Lake Region, which furnishes iron, copper ores and lumber.

(c) Great Plains, mainly a grazing region. Too little rain for farming.

4. Western Highlands.

Include about one-third of the whole country.

High and wide. Twice as high as the Appalachian Highlands.

(a) Rocky Mountains, on the east of this highland.

(b) Great Basin, a low plateau between the Rocky Mountains and the Sierras.

(c) Pacific Slope. Has a wet and a dry season. Wet season, October to May. Dry season, remainder of the year except in northern part.

DRAINAGE.

The most important rivers lie in the Central Plain and flow south into the Mississippi, thence through the Gulf of Mexico into the Atlantic Ocean.

The Missouri-Mississippi is the largest in the world—4300 miles in length.

Rivers of the northeastern part of the U. S. furnish excellent water power.

CLIMATE.

U. S. lies entirely in the north temperate zone. Has four seasons.

Gulf Stream, Labrador Current and Japanese Current affect the climate of the U. S. (How?)

WINDS.

East or trade winds bring moisture from the Atlantic Ocean to the Gulf and the Atlantic Plains.

Great Plains of the Central Plain have little rain.

Prevailing westerlies deposit much vapor on the mountainous lands near the Pacific Coast. Here the largest trees in the world are found.

RESOURCES.

Rich in metals, timber, pasture lands, fertile soil, numerous navigable rivers and lakes, good harbors, long coast line.

INDUSTRIES.

Agriculture (most important)
Manufacturing
Mining
Lumbering
Grazing
Stock raising
Fishing
Quarrying
Commerce

EXPORTS.

Cotton (mainly unmanufactured)
Breadstuffs (wheat, corn, flour, etc.)
Beef and pork

Petroleum
Iron
Silver
Gold
Tobacco
Manufactured Goods

Most of our exports are sent to Great Britain, Germany, Canada, Netherlands, and France.

IMPORTS.

Sugar and molasses from Hawaii, Germany, East Indies, Cuba.
Silk from Japan, France, China, Italy.
Hides and skins from Great Britain, France, East Indies, South America.
Drugs from Germany, Great Britain.
Teas and coffees from Brazil, Central America, Mexico.
Rubber from Brazil, Great Britain.
Fruits and nuts from Italy, Central America, West Indies.

STATES.

48 states. New Mexico was admitted January 6, 1912; Arizona, February 12, 1912. Our possessions include Alaska, Hawaii, Porto Rico and the Philippines.

GOVERNMENT.

Republic.

CAPITAL.

Washington, D. C.

UNITED STATES IN SECTIONS.

Our country is so large, covering an area of about 3,500,000 square miles, and so different in the various parts, that in order to study it in detail we must divide it into sections. In studying the different states it is convenient to group them into five sections and study each group by itself.

NORTH ATLANTIC GROUP.

Maine, Augusta on the Kennebec River.
New Hampshire, Concord on the Merrimac River.
Vermont, Montpelier on the Winooski River.
Massachusetts, Boston on the coast.
Rhode Island, Providence on Narragansett Bay.
Connecticut, Hartford on the Connecticut River.
New York, Albany on the Hudson River.
New Jersey, Trenton on the Delaware River.
Pennsylvania, Harrisburg on the Susquehanna River.

LOCATION.

Northeastern part of the U. S., partly bordering on the Atlantic Ocean.

EXTENT.

Included between:
67°—81° west longtitude.
39⅓°—48° north latitude.

COASTLINE.

Extremely irregular.
Many good harbors.
Great glacier has left its traces everywhere.

SURFACE.

Rises rapidly toward the north and west.
Appalachian Highlands extend through this group.
Eastern belt called Piedmont Plateau.
Middle part most rugged; contains Catskill and Adirondack in New York, White Mountains in New Hampshire, Green Mountains in Vermont, Berkshire Hills in Massachusetts.
West of this belt lies the broad Allegheny Plateau cut by many streams.

DRAINAGE.

Many streams break their way through the mountains and find their way to the Atlantic: Hudson, Connecticut, Susquehanna, Delaware, Merrimac, Kennebec, Penobscot.
General direction, south. Why?
Rivers rapid—good water power.

CLIMATE.

Northern part cold in winter with heavy snows. Cool in summer on account of Labrador Current. Southern part warm in summer, little snow in winter. Southern part affected by Gulf Stream.

RESOURCES.

Extensive forests in Maine, New Hampshire, and Vermont.
Quarries of marble, slate and granite.
Water power.
Fisheries.
Salt, in New York State
Navigable rivers
Mines
Good harbors

INDUSTRIES.

Manufacturing is most important. Why?
Lumbering
Mining
Quarrying

Fishing
Ship-building
Farming
Commerce

EXPORTS.

Cotton and woolen goods
Boots and shoes
Jewelry
Hardware
Carriages
Clocks
Coal
Fish
Cutlery
Firearms
Harnesses
Needles
Iron
Ice

IMPORTS.

Cotton
Hides
Provisions
Wool
Skins

ROUTES OF TRAVEL.

Rivers
Railroads
- Boston and Maine
- New York, New Haven and Hartford
- New York Central
- Pennsylvania
- D. L. and W.
- Erie

CITIES.

Portland, Maine, largest city and seaport.

Manchester, New Hampshire, largest city, manufactures cotton goods.

Boston, Massachusetts, largest city and a commercial railroad and manufacturing centre.

New Haven, Connecticut, largest city and seat of Yale University.

New York City, New York, largest city in the U. S., and a commercial and manufacturing centre.

Philadelphia, Pennsylvania, third city in the U. S., and a railroad and manufacturing centre.

SOUTH ATLANTIC GROUP.

Delaware, Dover, inland.
Maryland, Annapolis on Chesapeake Bay.
Virginia, Richmond, on the James River.
West Virginia, Charleston on the Kanawha River.
North Carolina, Raleigh, inland.
South Carolina, Columbia on the Santee River.
Georgia, Atlanta, inland.
Florida, Tallahassee, inland.

LOCATION.

Southeastern part of the U. S., partly bordering on the Atlantic.

EXTENT.

Included between 41° and 25° north latitude.
Included between 87° and 76° west longtitude.

COASTLINE.

More regular than that of the North Atlantic Group; hence, not so many fine harbors.

SURFACE.

The Appalachian mountain ranges and plateaus, with their stores of coal and iron, extend across these states from northeast to southwest.

East of the mountains is the Piedmont plateau. (Piedmont means foot of the mountain).

Land slopes seaward.

Low plains near the coast.

DRAINAGE.

Rivers flow in short courses into the Atlantic. Furnish excellent water power. Potomac, James, Roanoke, Cape Fear and Savannah most important.

CLIMATE.

Much warmer than that of the North Atlantic, due partly to the lower latitude, and partly to the ocean currents. Among the mountains, climate is cooler. The variable winds, caused by the cyclonic storms, supply all these states with sufficient rain for crops and for forests.

INDUSTRIES.

Farming is most important.
Fishing
Lumbering
Mining
Manufacturing

PRODUCTS.

1. **Vegetable.**
   Fruits, vegetables, tobacco, turpentine, tannic acid, cotton, rice, peanuts.
2. **Fish.**
   Shad, oysters.
3. **Mineral.**
   Coal, iron, petroleum, marble, granite and gold.
4. **Manufactured.**
   Machinery, farming tools, hardware, clothing, tin cans, furniture, cigars.

EXPORTS.

Kerosene, oysters, fish, peanuts, coal, fruits, vegetables, lumber, cigars.

IMPORTS.

Cuba tobacco leaf
Meat
Wool
Grain
Teas
Coffee

ROUTES OF TRAVEL.

Railroads
Baltimore and Ohio
Southern

CITIES.

Annapolis, Maryland, is the capital and the seat of the U. S. Naval Academy.

Baltimore, Maryland, the leading oyster market in the U. S., is a commercial, railroad and manufacturing centre.

Norfolk, Virginia, is a shipping port for Virgina products.

Wheeling, West Virginia, is a glass manufacturing centre.

Wilmington, North Carolina, is the largest city and has large cotton mills.

Charleston, South Carolina, is a rice and cotton market.

Atlanta, Georgia, the capital and railroad centre.

Savannah, Georgia, a market for rice, cotton, lumber and turpentine.

Jacksonville, Florida, exports large quantities of oranges and lumber.

DISTRICT OF COLUMBIA.

Southwest of Baltimore, on the Potomac River, in the District of Columbia, is the city of Washington, our national capital.

Here reside the President and his cabinet, members of Congress, foreign ambassadors and other representatives of the great nations of the world.

Chief buildings are great government buildings.

SUGGESTIONS.

Make a collection of two kinds of coal.

Find where the canned fruits and vegetables in your grocery store come from.

Collect pictures of scenes in a large city.

Collect pictures of scenes in the country.

Show several ways in which North Atlantic Group and South Atlantic Group are dependent on each other.

Visit a stone yard or a place where monuments are made, and collect specimens from the chips in the yard.

Make drawings of mackerel, cod. Find pictures of them in the dictionary.

NORTH CENTRAL GROUP.

Ohio, Columbus on the Scioto River.
Indiana, Indianapolis on a branch of the Wabash River.
Illinois, Springfield, inland.
Michigan, Lansing on Grand River.
Wisconsin, Madison on the Rock River.
Minnesota, St. Paul on the Mississippi River.
Iowa, Des Moines on the Des Moines River.
Missouri, Jefferson City on the Missouri River.
North Dakota, Bismark on the Missouri River.
South Dakota, Pierre on the Missouri River.
Nebraska, Lincoln, inland.
Kansas, Topeka on the Kansas.

LOCATION.

North central part of the U. S., partly bordering on the Great Lakes.

EXTENT.

From 80° to 104° west longtitude.
From 36° to 49° north latitude.

COASTLINE.

These states are entirely without seacoasts. Ohio, Michigan, Indiana, Illinois, Wisconsin and Minnesota border on the Great Lakes; hence, we find here many large lake ports.

SURFACE.

Land level.
Treeless plains are now found where once stood dense forests
Low mountains found in a few places.
Black Hills in South Dakota.
Ozark Mountains in Missouri.
Mineral Range in Michigan.
Turtle Mountains in North Dakota.

DRAINAGE.

This group of states is drained by the Mississippi system.

Lakes.

1. Border.
   Lakes Superior, Michigan, Huron, Erie, St. Clair.
2. Inland.
   Lakes Leech, Woods, Rainy, Red, Itasca in Minnesota.
   Devils Lake in North Dakota.
   Winnebags Lake in Wisconsin.

CLIMATE.

Summers short and hot, winters long and cold.

Rainfall sufficient for crops, except in the extreme western part, which is arid, like western Texas.

INDUSTRIES.

Agriculture—most important.
Cattle ranching
Meat packing
Lumbering
Mining
Manufacturing
Commerce, by means of the Mississippi River System and the Great Lakes.

PRODUCTS.

1. Vegetable.

Wheat—best comes from the Red River Valley.
Corn—much that is raised is fed to cattle and hogs.
Oats—a common food for horses.
Barley—largely used in the manufacture of beer.
Fruits—from the Great Lake region.

2. Animal.

Cattle, sheep, hogs, horses.

3. Mineral.

Limestone, sandstone, slate, granite, petroleum, coal, copper and iron ore, lead, zinc and clays.

The Lake Superior District is now the leading iron-producing centre in the world.

4. Manufactured.

Breakfast foods, starch, whiskey from corn.

Beer from Barley.

Furniture, farming implements, machines, freight cars, passenger cars, freight cars, stoves—from steel, iron and lumber.

Flour from wheat.

Shoes, gloves, harness and other leather goods from the hides of the animals.

EXPORTS.

Beef, pork, flour, iron, copper, lumber, grain and manufactured goods.

IMPORTS.

Clothing, provisions.

CITIES.

Cincinnati, Ohio, manufactures pottery, machinery and cars.

Indianapolis, Indiana, is the largest city, a railroad centre, and handles a large amount of grain, lumber and furniture.

Chicago, Illinois, is the second city in America and the greatest grain and meat market in the world.

Grand Rapids, Michigan, manufactures furniture.

Minneapolis, Minnesota, is the leading flour market in America.

St. Louis, Missouri, is the largest city and a market for grain and live stock.

Kansas City, Kansas, is the largest meat market west of the Mississippi River.

LAKE PORTS.

Duluth, Minnesota, on Lake Superior.
Superior, Wisconsin, on Lake Superior.
Chicago, Illinois, on Lake Michigan.
Milwaukee, Wisconsin, on Lake Michigan.
Detroit, Michigan, on Lake Erie.
Toledo, Ohio, on Lake Erie.
Cleveland, Ohio, on Lake Erie.

TRANSPORTATION.

Illinois Central from New Orleans to Chicago.

New York Central and Hudson River R. R. from New York to Chicago.

Lake Shore and Michigan.
Central R. R.

SOUTH CENTRAL GROUP.

Kentucky, Frankfort on the Kentucky River.
Tennessee, Nashville on the Cumberland River.
Alabama, Montgomery on the Alabama River.
Mississippi, Jackson on the Pearl River.
Louisiana, Baton Rouge on the Mississippi River.
Texas, Austin on the Colorado River.
Arkansas, Little Rock on the Arkansas River.
Oklahoma, Guthrie on the Cimarron River.

LOCATION.

South central part of the U. S., partly bordering on the Gulf of Mexico.

EXTENT.

From 81° to 107° west longtitude.
From 26° to 39° north latitude.

COASTLINE.

Regular. Most of the states are without seacoasts. Texas, Louisiana, Mississippi, and a small part of Alabama border on the Gulf. Very few harbors.

SURFACE.

Almost the entire area is made up of plains.

The level portions are the delta and flood plain of the Mississippi and the coastal plains, which skirt the entire Gulf and Atlantic Coast. West of the coastal plains is the Piedmont plateau extending to the base of the Appalachian. This section has good drainage and excellent soil. It is the seat of cotton and tobacco raising. The Appalachian Mountains with their rich coal beds extend through Tennessee and Alabama.

DRAINAGE.

Rivers are long.

Most important ones belong to the Mississippi River System. Ohio, Cumberland and Tennessee flow into the Mississippi from the east; Arkansas and Red flow into the Mississippi from the west.

General direction is south. Why?

CLIMATE.

Everywhere warm.

Damp winds from the Gulf bring an abundant rainfall except in western Texas. Being in the horse latitudes and too far from the sea to be reached by damp winds, it receives little rain. Hence, ranching is the only industry possible.

INDUSTRIES.

Agriculture most important. Reasons?
Carried on in all the states.
Grazing (especially in western Texas).
Manufacturing.
Mining.
Commerce.

PRODUCTS.

1. Vegetable.

Cotton (most valuable crop).
Rice (from the flood plains).
Sugar-cane (Gulf states).

Fruits—pineapples, cocoanuts, grapes, watermelons, peaches, pears.
Corn.
Wheat.

2. Animal.

Horses, mules, cattle, sheep and hogs.

3. Mineral.

Coal, iron, marble and granite.

4. Manufactured.

Clothing, furniture, soap (from the cotton seed oil), sugar, tobacco.

EXPORTS.

Cotton, sugar, molasses, tobacco, rice, cattle, horses.

IMPORTS.

Teas, coffees, ice, flour, manufactured goods.

CITIES.

Louisville, Kentucky, is the largest city and a centre for tobacco.

Memphis, Tennessee, is the largest city and a cotton and lumber market.

Birmingham, Alabama, is the largest city and a coal and iron market.

Vicksburg, Mississippi, the largest city is a market for cotton.

New Orleans, Louisiana, the largest cotton market and a centre for sugar, molasses and rice.

Galveston, Texas, is the principal seaport west of New Orleans. Exports quantities of cotton.

TRANSPORTATION.

Illinois Central Railway extends from Chicago to New Orleans along the Mississippi River for much of the distance.

The Louisville and Nashville reaches Louisville and St. Louis.

The Southern Railway runs most of the distance from Washington to New Orleans, connecting with the Southern Pacific, which extends westward across Texas to California.

WESTERN GROUP.

Montana, Helena, inland.
Wyoming, Cheyenne on the South Platte River.
Colorado, Denver on the South Platte River.
New Mexico, Santa Fe, inland.
Arizona, Phoenix on the Salt River.
Utah, Salt Lake City on Great Salt Lake.

Nevada, Carson City on the Humboldt River.
Idaho, Boise on the Boise River.
Washington, Olympia on Puget Sound.
Oregon, Salem on the Willamette River.
California, Sacramento on the Sacramento River.

LOCATION.

Western part of the U. S., partly bordering on the Pacific Ocean.

EXTENT.

From 102° to 125° west longtitude.
From 32° to 49° north latitude.

COASTLINE.

Washington, Oregon and California border on the Pacific. The coastline of these states is regular. Hence, very few harbors.

SURFACE.

Made up almost entirely of plateaus and mountains.

Rocky Mountains in the east extending from Canada to Mexico West of the Rocky Mountains and parallel with them are the Sierra Nevada Mountains in California and the Cascade Ranges in Oregon and Washington. Still farther west and close to the coast is the Coast Range.

An area of lowland lies between the Sierra Nevada Cascade system and the Coast Range.

DRAINAGE.

Rivers though long are not navigable, partly because of the steep slopes, and partly because of the lack of water. During the dry season, many, like the Rio Grande, almost disappear in the middle part of their course.

Trace the Rio Grande and the rivers that empty into the Pacific Ocean.

CLIMATE.

Has a variety of climates. Reason is the elevation.

The damp, prevailing westerlies along the western coast are robbed of their vapor as they cross the mountains; the air descends on the eastern side so dry that farming is impossible without artificial watering (irrigation).

Desert regions in Nevada, Utah, and Arizona.

INDUSTRIES.

Mining is most important.

Lumbering (Giant trees in Washington, Oregon and California).

Agriculture (chiefly by irrigation).

Grazing

Fishing

PRODUCTS.

1. **Mineral.**
   Gold, silver, copper, lead, mercury, iron and coal.
2. **Vegetable.**
   Wheat, barley, hay, lemons, olives, oranges, figs, grapes, prunes, apricots and many other kinds of fruits and nuts.
   Most common fruit—seedless navel oranges.
3. **Animal.**
   Cattle, sheep, horses, goats.
4. **Fish.**
   Salmon from the Columbia River.

EXPORTS.

Gold, silver, fruits, wine, wool, salmon, lumber, grain and hops.

IMPORTS.

Clothing, manufactured goods and provisions.

CITIES.

Butte, Montana, is the largest city and a mining centre for copper.

Cheyenne, Wyoming, the largest city and a market for cattle.

Portland, Oregon, the largest city and an important shipping port on the Pacific.

Seattle and Tacoma on Puget Sound in Washington manufactured lumber and furniture.

Leadville, Colorado, is a mining district for gold, silver and lead.

Salt Lake City, Utah, is the largest city and the home of the Mormon church.

San Francisco, California, the largest city on the Pacific Coast and the center for foreign trade.

INTERESTING POINTS.

1. The Yellowstone Park in Wyoming is a tract of land larger than Connecticut, which tract the government has set aside as a national park. Objects of interest here are boiling springs, deep canyons and waterfalls.

2. The Grand Canyon of the Colorado River in Arizona is like a trough cut out of the rocks by the river in its course. As one looks out over the canyon, one sees nothing but towers, pinnacles and many colored layers of rock.

3. The Yosemite Valley, on the western slope of the Sierra Nevada Mountains in California, is drained by the Yosemite River which is noted for the Yosemite Falls. Near the falls are seen the giant trees of the world.

TRANSPORTATION.

Southern Pacific and Santa Fe Lines terminate in San Francisco.

Union Pacific terminates in Portland.

Northern Pacific terminates in Portland.

SUMMARY.

Leading states in Population, wealth and commerce.	New York State.
Manufactures	Massachusetts.
Corn production	Iowa.
Wheat production	Minnesota.
Hay production	New York.
Cotton production	Texas.
Coal production	Pennsylvania.
Iron ore production	Michigan.
Gold production	Colorado.
Silver production	Colorado.
Hogs	Iowa.
Cattle	Iowa.
Sheep	Ohio.
Horses	Illinois.
Tobacco production	Kentucky.
Sugar production	Louisiana.

NOTE.—This outline in pamphlet form is ready for sale at 15 cents a copy or $10 a hundred. Other outlines ready at the same price are South America, Europe, and Asia.

Volume V. of this magazine will publish a series of questions and answers to supplement each of the outlines.—EDITOR.

Questions and Answers on New York State

By WILLIAM HEIDT, Jr., Parksville, N. Y.

LOCATION.

1. In what part of our country is New York State?

2. What group of States East?

3. Name three that border New York on the east; two on the south.

4. What water southeast?

5. What are the boundaries on the west?

6. What country bounds it on the north?

7. Commencing at the north, mention all the boundaries of the State.

SIZE AND SHAPE.

8. What parallel of latitude near the northern boundary; near the southern?

9. What European countries are in the same latitude?

10. What is the longitude of Montauk Point; of New York City; of Buffalo?

11. Using the scale of miles, compute the distance from New York City to Rouse's Point.

12. How long would it take a train going thirty miles an hour to go from one to the other?

13. In like manner, compute the distance from Albany to Buffalo and the time required to make the trip.

14. What is the actual area of the State? Compare with United States; with Texas; with England and Wales.

15. What island southeast; island south; in the St. Lawrence?

RELIEF.

16. To what mountain system do the highlands of the State belong?

17. In what part are they?

18. Name and locate the principal groups.

ADIRONDACK MOUNTAINS.

19. Which is the highest group?

20. What valley and lake east?

21. What river valley south; southeast?

22. In what basin does the western slope of the Adirondacks lie?

23. What river has its headwaters here?

24. Which is the highest peak?

25. Locate it and tell how high.

26. What is the form of the Adirondack peaks?

27. Are they covered with snow all the year?

28. Describe the forests there.

29. What chasm of great beauty in these mountains?

30. By whom are the Adirondacks visited each summer?

31. Name some of the lakes.

32. For what is Lake George noted?

33. Of what formation are the Adirondack mountains?

CATSKILL MOUNTAINS.

34. Where are these?

35. What river valley east; north?

36. Of what formation are these mountains?

37. How were the valleys made?

38. Name the two highest peaks.

39. What is the chief industry of the people who live here?

40. Why are these mountains so healthful?

41. What is the elevation of the highest?

SOUTHEASTERN HIGHLANDS.

42. Where are the highlands of the Hudson?

43. Describe their slopes.

44. What mountains rise to the southwest?

45. Of what formation are they?

46. What are the high bluffs across the Hudson at New York City called?

47. Of what formation and how formed?

48. Why called the Palisades?

ALLEGHENY PLATEAU.

49. Locate this region.

50. Describe the rise of land southward from Lake Ontario.

51. Of what rock formation?

52. In what general direction does this plateau slope?

53. By what rivers is it drained?

54. What section is a lowland region?

55. How did the rivers get through the plateau?

56. What river is still carving its course?

LOWLANDS.

57. What name is applied to the lowlands along the Lakes?

58. Is it really a level section?

59. Describe it, telling in which direction the surface slopes.

60. Describe the surface of Long Island; of the Mohawk Valley; of the Susquehanna Valley.

DRAINAGE.

ST. LAWRENCE SYSTEM.

61. What lake and streams are included in this system?

62. What is the area of its basin?

63. Describe the St. Lawrence by telling where it rises, direction of flow, and water into which it empties.

64. Locate the Genesee river.

65. In what respect does it differ from all other rivers of the State?

66. Tell where it rises, direction of flow, and into what water it empties.

67. How long is it?

68. Describe its course.

69. What river rising in the Adirondacks empties into the St. Lawrence?

70. For what extensively used?

71. Name and locate the five largest of the Central Lakes.

72. What river is their outlet, and into what does it flow?

73. For what are these lakes noted?

NIAGARA RIVER AND FALLS.

74. Which is the higher, Lake Erie or Lake Ontario?

75. By what river connected?

76. When is it thought this river began to flow?

77. How has it changed its course?

78. What natural curiosity on this river?

79. Mention two islands in the river.

80. Which divides the falls?

81. Describe the falls as to height and width.

82. Describe the river below the falls.

HUDSON RIVER.

83. In what part of the State?

84. How does it rank in length?

85. How long and for how many miles navigable?

86. What city at the head of navigation?

87. Describe the Hudson in relation to source, direction of flow, its banks, its bed, and the water into which it empties.

88. What valley northeast?

89. Name and locate its chief tributary.

90. Where does it rise?

91. What is the direction of its course?

92. Describe its valley.

93. What mountains north; south?

DELAWARE RIVER.

94. In what part of the State and in what mountains does this river have its source?

95. In what direction does it flow and into what water?

96. Mention its chief tributary.

97. A part of what boundary does it form?

SUSQUEHANNA RIVER.

98. In what part of the State is it?

99. In what lake does it rise?

100. What other river has its headwaters within a few miles of this lake?

101. Describe its course.

102. Name its two chief tributaries.

103. From its course, what can you infer about the surface of its valley?

104. Discuss the fertility of the soil of this valley.

MISSISSIPPI SYSTEM.

105. The waters of what part of the State reach the Mississippi?

106. Through what tributary?

107. Near what plateau does the Allegheny rise?

LAKES.

108. In what section of the State are there many lakes?

109. Of what formation?

110. For what noted?

111. Name and locate the largest.

112. Name the Finger Lakes.

113. To what river system do they mostly belong?

114. What one in the southwestern part of the State?

115. For what noted and by what drained?

116. What lake on the northeastern border?

117. Describe the navigation on the lakes.

118. Where is Lake George?

WATERFALLS.

119. How does this State rank in number and beauty of the waterfalls?

120. Which is the most noted?

121. What falls on the Genesee river?

122. Locate Au Sable chasm and describe it.

123. Where are the Cohoes falls? the Trenton falls?

124. What two falls in the Catskills?

125. What falls on Seneca Lake; two on Cayuga Lake?

CANALS.

126. Name and locate three canals of the State.

127. Which is the principal one?

128. When and why built?

129. What alterations are being made?

130. What cities does it connect?

131. Mention several important cities along its course.

132. In what way will the canal affect the growth of these cities?

133. In what way will the barge canal be a benefit?

134. What articles of commerce are extensively carried through the canal?

135. Why was the central part of the State selected for the site of the canal?

136. How are the differences in height of the land along the canal overcome?

137. When completed, what will the new canal be called? How will it compare with other canals of the United States?

138. Name and locate other canals of the State, and, if you can, tell which are being improved along with the Erie Canal.

CLIMATE.

139. In what zone is New York?

140. In what heat belt?

141. What are the prevailing winds?

142. Discuss the amount and distribution of rainfall.

143. Describe the winters in the northern part and along the lakes.

SOIL.

144. By what was the greater part of the soil in the State left?

145. Is it fertile?

146. Why deepest in the valleys?

147. What various kinds of soil are found in the State?

148. What sections are particularly fertile?

PRODUCTS AND AREAS OF PRODUCTION.

Vegetable Productions.

149. What section of the State produces large quantities of lumber?

150. Name some of the forest trees to be found in that section.

151. For what are the spruce trees largely used?

152. On a map of the State outline sections where each of the following are extensively produced: Wheat, tobacco, hops, hay, oats, garden vegetables, corn, grapes, apples, peaches.

Animal Products.

153. Are the wild animals in large numbers?

154. What has the State done for the preservation of the remaining few?

155. Name some still to be found, telling where.

156. What domestic animals are largely reared in the State?

157. Where are dairy cattle and dairy products largely produced?

158. Discuss the poultry production of the State.

159. Which sections lead in this?

Mineral Productions.

160. Locate sections in the State in which the following building materials are mined: Granite, marble, slate, limestone, clay.

161. In what part of the State are flag stones quarried; for what used?

162. What can you say about the brick district of the Hudson Valley?

163. Where are the salt wells and mines?

164. Tell some of the ways of getting salt.

165. From what is cement made?

166. What country produces much cement?

167. Where is the best iron ore district in the State?

168. In what other sections is iron ore found?

169. Where are graphite and talc found?

170. For what is each used?

171. Where are the oil and the gas wells?

172. Where is gypsum found, and for what used?

Manufactured Products.

173. Make a list of the ten most extensively manufactured products of the State, mentioning sections largely engaged in producing each.

174. In what production does New York excel every other State in the Union?

175. How does it rank in the manufacture of boots and shoes?

Industries.

176. What is the chief industry?

177. How does New York State compare with other States in this industry?

178. Name some natural conditions that greatly favor this.

179. What industry is second?

180. In this, what is its rank with the other States?

181. State briefly the importance of fruit growing.

182. Where is market gardening an important industry?

183. What sections are having dairying as a leading industry?

184. How does the State rank with the other States as a dairying State?

185. Discuss the importance of mining, lumbering, commerce, fishing.

IMPORTANT CITIES.

186. Name and locate the capital.

187. What is its population?

188. How does it compare in size with New York City?

189. How did the Erie Canal affect the growth of Albany?

190. What four trade routes meet here?

191. Explain why Albany is an important shipping center?

192. What railroads reach it?

193. How is it otherwise connected with New York City?

194. How long has it been the capital of the State?

195. What are some of the noted buildings here?

196. Discuss the manufactures of Albany.

197. Give reasons why New York City has become the most important manufacturing center in the country.

198. Name some of the articles made here.

199. In the production of what one does it excel every other city in the Union?

200. Which is the second city in size?

201. Compare with New York City in size.

202. What is it sometimes called?

203. Locate it.

204. What are its chief manufactures?

205. What schools here?

206. Name and locate the third city in size, and compare with New York City.

207. What natural advantage gave this city its start?

208. Make a list of its manufactured products.

209. By what name is it sometimes known; why?

210. Make a list of the following cities and villages, locating each and telling what articles each manufactures extensively: Syracuse, Solvay, Haverstraw, Poughkeepsie, Newburgh, Kingston, Peekskill, Troy, Watervliet, Utica, Cohoes, Amsterdam, Gloversville Johnstown, Rome, Ilion, Mechanicsville, Hoosick Falls, Niagara Falls, Lackawanna, Lockport, Oswego, Dunkirk, Auburn, Ithaca, Geneva, Binghamton, Elmira, Jamestown, Olean, Corning, Watertown, Ogdensburg.

211. Which is the chief commercial center of the State?

212. How does it rank as a seaport and commercial center of the Nation?

213. Mention foreign ports with which New York City has steamship connections, naming the connection lines.

214. Name two ways by which it is connected with other commercial centers of the Union; mention the cities.

TRADE ROUTES.

215. Trace across the State the following railroads, telling why the routes were chosen and mentioning cities along the lines: The Central railroad, the West Shore, the Erie, the Lehigh Valley, the Lackawanna, the Delaware and Hudson, the Ontario and Western.

216. Name three other lines that enter New York City.

217. What railroad on Long Island?

218. Trace a water route from New York City to ports on the Great Lakes, telling what a vessel would likely carry in going and in coming.

219. Name some of the products that are brought to New York City by rail.

GOVERNMENT.

220. Upon what is government of the State based?

221. What is the title of the chief executive?

222. Who is the governor?

223. When and how chosen?

224. When will his term expire?

225. By whom are the laws made?

226. What is the legislative body called?

227. Of what composed?

228. How are the State senators chosen; for what term?

229. How are the assemblymen chosen; for what term?

230. Tell how a bill becomes a law in this State.

231. Of what is the Judicial Department composed?

232. What are the chief duties of the department?

233. How are the judges chosen?

234. What are the local judges and courts called?

235. Why is the State divided into counties?

236. How many are there?

PEOPLE.

237. What is the population of this State?

238. How does that number compare with the population of the other States?

239. Of what races and classes is it comprised?

240. Discuss religion and education.

241. How is the education of the people of the State controlled; that in the larger cities?

242. Characterize the educational system.

243. Name some of the schools that are free to the people.

244. Name and locate some of the colleges and normal schools.

245. Where are the Indians of this State?

246. How many are there?

247. Locate the reservations.

248. What has the State done to help them?

HISTORY.

249. By whom was New York first settled; when?

250. What settlements were made?

251. Upon what did they base their right to the territory?

252. Why did they settle here?

253. Who afterward got posesssion of the land?

254. When did the State become free?

255. When did the people adopt the first constitution?

256. What Indians occupied the State when the whites came?

257. In what ways did these Indians differ from other Indians of the continent?

258. Name some of the tribes.

259. Mention some of the Indian names that still remain.

INTERESTING FACTS.

260. How does New York City rank in size among the cities of the Western Continent; with cities of the world?

261. How does the State rank with other States in population?

262. How does the State rank with the other States in wealth?

263. How does the population of New York City compare with the population of the rest of the State?

264. Why is the State called the Empire State?

ANSWERS TO QUESTIONS ON NEW YORK STATE.

LOCATION.

1. It is in the northeastern part of our country.

2. The New England States are east.

3. States bordering New York on the east are Vermont, Massachusetts and Connecticut; on the south are New Jersey and Pennsylvania.

4. The Atlantic Ocean, Long Island Sound, New York Bay and many smaller bays are southeast.

5. The western boundaries are Pennsylvania, Lake Erie, Canada, and Lake Ontario.

6. Canada bounds New York on the north.

7. On the north, Canada; on the east, Lake Champlain, Poultney River, Vermont, Massachusetts, Connecticut, Long Island Sound, Atlantic Ocean; on the south, Atlantic Ocean, New York Bay, New Jersey, Delaware River, Pennsylvania; on the west, Hudson River, Pennsylvania, Lake Erie, Niagara River, Lake Ontario, St. Lawrence River.

SIZE AND SHAPE.

8. The northern latitude is 45 degrees N.; the southern 41 degrees N.

9. Parts of Portugal, Spain, France, Italy, Austria-Hungary, Greece, Turkey, and southeastern Russia.

10. The longitude of Montauk Point is about 72 degrees W.; of New York City, 74 degrees; of Buffalo, about 79 degrees.

11. The distance is 300 miles.

12. It would take a train 10 hours to go from one to the other.

13. The distance between Albany and Buffalo is about the same as that from New York City to Rouses Point, and it would take a train the same length of time.

14. In round numbers the area is 50,000 sq. mi.; or 1/60 of the main body of the United States, 1/5 the area of Texas, and about the same as that of England and Wales.

15. Long Island is southeast; Manhattan and Staten Islands are south; Thousand Islands are in the St. Lawrence.

16. The highlands of the State belong to the Appalachian system.

17. They are chiefly in the eastern part of the State.

18. The principal groups are Adirondacks in the northern part, the Catskills in the east central part, and the Shawangunk Mountains in the southeastern section.

ADIRONDACK MOUNTAINS.

19. The Adirondacks are the highest.

20. Lake Champlain and its valley are east.

21. Mohawk south; Hudson southeast.

22. Lies in the St. Lawrence basin.

23. The chief one is the Hudson river.

24. Mount Marcy is the highest peak of the Adirondacks as well as of the State.

25. Mount Marcy is in the east-central part of the Adirondacks, and is 5344 feet high.

26. These peaks are round and smooth.

27. Snow covers them for a part of the year only.

28. Their slopes are covered with valuable forests.

29. The Au Sable chasm is in these mountains.

30. They are visited by great numbers of hunters, fishers and other pleasure seekers.

31. Some of the beautiful lakes are Lake Placid, Lake George, the Saranac Lakes and Lake Schroon.

32. Lake George is noted for its scenic beauty. It is the most noted of the Adirondack lakes.

33. The Adirondacks are of granite rock formation.

CATSKILL MOUNTAINS.

34. They are in the east-central part of the State.

35. The Hudson river valley is east; the Mohawk north.

36. They are of sandstone formation, the rock being arranged in level layers.

37. Rains and streams cut and wore the valleys through the hard rock.

38. Slide mountain is the highest of the Catskills and the second loftiest in the State. Hunter mountain is another of the Catskills.

39. People residing in the Catskills are largely engaged in conducting summer resorts. Dairying and grazing are important industries in the valleys.

40. The cool pure air makes the mountains a very healthful place.

41. Slide mountain is 4205 feet high.

SOUTHEASTERN HIGHLAND.

42. These highlands of the Hudson are ridges near the mouth of the Hudson river.

43. Their slopes are rough and steep.

44. The Shawangunk mountains rise to the northwest.

45. They are very hard limestone ridges.

46. The Palisades.

47. Ages ago lava was forced up and spread with layers of sandstone between. Later the sandstone was washed and worn away and the harder lava layers remained.

48. Because the arrangement of the lava columns resembles the Palisades made of stakes.

ALLEGHENY PLATEAU.

49. This section occupies the greater part of the State west of the Catskills.

50. Along the lakes there is a plain, back of which there is a rise of land.

51. The rock of these bluffs is a hard limestone.

52. The general slope is northward.

53. The Susquehanna, Delaware, and Allegheny Rivers drain in this plateau.

54. That section skirting the lakes.

55. Cut their way through the rocks. As their sources are higher than their mouths, there is a strong current which enables them to do this.

56. The Genesee is still cutting its way.

LOWLANDS.

57. The lowlands along the lakes are called the lake plains.

58. No; there are many hills in some places.

59. There are really two plains—one lower than the other. The lower skirts Lake Ontario, is level but is not more than ten miles wide at the most. The upper plain is called the Erie plain and Lake Erie lies in it. The slope is northward.

60. The surface of Long Island is rolling, with low hills on the north; that of the Mohawk valley is level, but the valley is nowhere very wide; the Susquehanna flows through a broad level plain of drift soil.

DRAINAGE.

ST. LAWRENCE SYSTEM

61. In this system are included the Great Lakes, the Finger Lakes, Lake Champlain, many Adirondack rivers and lakes, and the Genesee river.

62. The total area of the St. Lawrence basin is over 500,000 square miles.

63. The St. Lawrence rises in Lake Ontario, flows northeast, and empties into the Gulf of St. Lawrence.

64. In the west-central part of the State.

65. As it flows across the State it differs from any other river in New York.

66. It rises in northern Pennsylvania, flows northward across the State, and empties into Lake Ontario.

67. About 125 miles.

68. Its course is northward across the plateau through which it is cutting its way. At Rochester it descends 200 feet in three falls.

69. The Black River rises in the Adirondacks and empties into the St. Lawence.

70. Owing to the rapids in its course it cannot be used for navigation, but yields an abundance of water power.

71. The principal lakes of the central part of New York State are Cayuga, Seneca, Keuka, Canandaigua, Skaneateles and Owasco, called the Finger Lakes, and Onondaga and Oneida.

72. The Oswego river is the outlet of these lakes; it flows into Lake Ontario.

73. They are noted for their scenic beauty, which is unsurpassed in this country.

NIAGARA FALLS AND RIVER.

74. Lake Erie is the higher.

75. They are connected by the Niagara river

76. Undoubtedly the Niagara began flowing thousands of years ago.

77. It has worn back its gorge to a distance of seven miles.

78. The natural curiosity on the Niagara river is the celebrated Niagara Falls.

79. Goat Island and Grand Island are the islands in the Niagara river.

80. Goat Island divides the river at the falls.

81. The eastern fall is the American fall. It is 167 feet high, and its outline is 1000 feet long. Horseshoe or Canadian fall is on the western side. It is 158 feet high, and the length of its outline is 2400 feet.

82. Below the falls for seven miles, the river follows a gorge whose perpendicular sides rise from 200 to 350 feet in height. Where it is wide and deep it flows smoothly; then in a narrow section of the gorge it rushes and foams in the Whirlpool rapids.

HUDSON RIVER.

83. The Hudson river is in the eastern part of the State.

84. It is the longest in the State.

85. It is navigable for 150 miles, or half its length.

86. Troy is at the head of navigation.

87. The Hudson rises in the Adirondack mountains, flows south through a gorge it cut thousands of years ago. Its bed varies in width but falls gently to the Atlantic into which it empties.

88. The Champlain valley is northeast of the Hudson river.

89. The Mohawk river of the east-central part of the State is the chief tributary of the Hudson.

90. The Mohawk rises in central New York, just south of the Adirondacks.

91. It flows in an easterly direction, emptying into the Hudson.

92. Its valley is about 175 miles long, rather narrow, and generally level. It is noted for its fertility.

93. The Adirondacks are north; the Catskills, south.

DELAWARE RIVER.

94. The Delaware is in the southeastern part of the State. It rises in the Catskill mountains.

95. Its general direction of flow is southeast, emptying into Delaware bay.

96. The Neversink is its chief tributary.

97. It forms a part of the boundary between New York State and Pennsylvania.

SUSQUEHANNA RIVER.

98. The Susquehanna is in the southern part of New York State.

99. It rises in Otsego Lake.

100. The Mohawk rises near this lake.

101. The course of the Susquehanna is irregular. It flows out of the State, then in, and then out again, across Pennsylvania and empties into Chesapeake Bay.

102. Its two chief tributaries are the Chenango and the Chemung rivers.

103. The valley is very level.

104. Because the soil of the Susquehanna was brought by the rivers, it is very fertile.

MISSISSIPPI SYSTEM.

105. The waters of the southwestern part of the State are drained by the Mississippi system.

106. Through the Allegheny river.

107. Near the Allegheny plateau.

LAKES.

108. There are many lakes in the central part of the State.

109. They were formed by the glacier.

110. These lakes are noted for their scenic beauty.

111. Cayuga Lake is the largest of the Finger Lakes. It is in the central part of the State.

112. The larger of the Finger lakes are Cayuga, Seneca, Keuka, Canandaigua, Skaneateles and Owasco.

113. They belong to the St. Lawrence system.

114. Lake Chatauqua is in the southwestern part of the State.

115. It is noted for the Assembly that meets there each summer.

116. Lake Champlain is on the northeastern border.

117. The navigation on the Great Lakes is very extensive. Thousands and thousands of tons of grain and ores and hundreds of shiploads of lumber are transported from Canada and the West to lake ports to be distributed inland; and those boats carry back valuable cargoes of manufactured articles. On the smaller lakes the navigation is chiefly that of pleasure craft or, in some cases, of canal boats.

118. Lake George is in the northeastern part of the State.

WATERFALLS.

119. New York State ranks first in the number and beauty of its waterfalls.

120. Niagara Falls are the most noted.

121. The Portage Falls are on the Genesee river. At Rochester the river falls 200 feet.

122. Au Sable chasm is on the Au Sable river in the Adirondacks. The chasm is about two miles long, fifty feet wide between sheer walls of rock 100 feet high.

123. The Cohoes Falls are on the Mohawk river; the Trenton Falls are on West Canada Creek, a branch of the Mohawk.

124. Kaaterskill Falls and Haines Falls are in the Catskills.

125. Watkins Glen is at the head of Seneca Lake; at the head of Cayuga Lake are Ithaca Falls, and on the western side Taughannock Falls.

CANALS.

126. The Erie canal which extends across the central part of the State from the Hudson to Lake Erie; the Champlain canal which establishes a trade route between the Hudson and Lake Champlain; the Oswego canal which connects Lake Ontario with the Erie canal.

127. The Erie is the principal canal of the State.

128. It was built by the State between 1817 and 1825 to encourage settlement by facilitating transportation.

129. The State is now relocating a part of its course, and enlarging it for the use of power-driven barges.

130. Buffalo and Albany are the terminals.

131. Cohoes, Schenectady, Little Falls, Utica, Rome, Syracuse, Rochester and Lockport are the chief cities along the canal.

132. It has made these cities possible. They were at first simply points for distribution of goods carried over the canal, and later as the State became more densely settled these settlements grew to be cities.

133. Being larger, it will enable larger boats to traverse it, thereby increasing the commerce as the barges will carry greater cargoes and travel more rapidly than do the present canal boats.

134. Lumber, grain, oats, ores, coal, flour and freight not requiring rapid transportation.

135. Because it was a natural route. By following the Mohawk valley and the lake plains the more elevated sections of the State were avoided.

136. These differences were overcome by the use of locks.

137. When completed it will be known as a barge canal, and will be the largest canal in the United States.

138. See answer to number 126. The Oswego and the Champlain canals are being enlarged along with the Erie. The Cayuga and Seneca canal will be improved also, but separately.

CLIMATE.

139. New York State is in the North Temperate zone.

140. It lies in the belt of hot summers and cold winters.

141. Most of the winds blow from the Great Lakes, but the southeastern section is affected by the winds from the ocean.

142. New York State has plenteous rainfall, which is well distributed throughout the State as well as through the year.

143. The winters of the northern part are warmer than they would be were the lakes not there, for the winds blow from the lakes during the winters and warm the land. The winters there are nevertheless rather severe.

SOIL.

144. By the glacier.

145. It is fertile if rightly used.

146. The ice sheet was deepest there and when the ice thawed the soil remained.

147. In sections where the rocks are limestone we find limestone soil. In other regions where the shales were distributed by the ice we find clayey soils. Likewise, sandstone rocks have produced sandstone soil.

148. The river valleys—particularly the Hudson and the Mohawk—and the lowlands along Lake Ontario are especially productive.

PRODUCTS AND AREAS OF PRODUCTION.

149. Lumber is largely produced in the Adirondack and Catskill mountains and in the plateau region.

150. Hemlock, pine, spruce, maple, oak, birch, beech, cedar, ash, and chestnut are among the chief forest trees of the State.

151. The spruce trees, of which a great many are brought in from Canada, are used in making paper pulp.

152. The sections of the State which produce the most wheat are the lake plains and Long Island. The Susque-

hanna valley produces tobacco. Hops are chiefly produced along the Mohawk. Hay is produced in all parts of the State excepting in the Adirondack Mountains. Oats are more extensively produced over the lake plains and in the Mohawk valley than in other parts. Garden vegetables are produced near the cities as there they are to be consumed. The lake plains, Mohawk valley and the western extremity of Long Island produce the most corn. The chief grape producing sections are along Lake Erie and the Finger Lakes. Apples grow best along the southern shore of Lake Ontario, along Lake Erie and in the Hudson valley. Peaches, plums and pears grow in the apple regions.

ANIMAL PRODUCTS.

153. There are no longer many wild animals.

154. To preserve the remaining few, the State has set aside reservations for them and has passed laws protecting them.

155. In the Adirondacks there are still to be found bear, panthers, wildcats, and in other sections as well are found deer.

156. New York State rears many horses, sheep, hogs, dairy cattle and much poultry.

157. Dairy cattle are reared in nearly all parts of the State, with the exception of the apple belt and the Adirondack and the Catskill mountains. The Finger Lake region is the best dairying section.

158. The poultry production of the State is very large. While chickens are raised in the greatest numbers, turkeys, geese and ducks are also raised.

159. As poultry is mostly consumed in the cities, the sections leading in the production are around the five largest cities, New York, Buffalo, Rochester, Syracuse and Albany.

MINERAL PRODUCTIONS.

160. Granite and marble are found in the Adirondacks and along the lower Hudson. In the southern part of the lake region slate is quarried. The chief limestone area is along Lake Ontario. Clay is found in the Hudson valley.

161. The southeastern part of the State quarries many flagstones. They are used for walks.

162. The brick district of the Hudson valley is unsurpassed in all the world.

163. The salt wells and mines are found in an area stretching from the Finger Lakes to Lake Erie.

164. From the mines it is dug out as rock salt. In the wells it is pumped out with the water which is evaporated leaving the salt.

165. Cement is made from a kind of rock by crushing it.

166. Ulster County produces much cement.

167. The best iron ore district of the State lies along the west shore of Lake Champlain.

168. Iron ore is also found in the central and southeastern sections of the State.

169. Graphite and talc are found in the foothills of the Adirondacks.

170. Graphite is used in lead pencils, and talc in paper making.

171. The oil and the gas wells are in the southwestern part.

172. Gypsum is found in many places in the State, and is used on the farms to keep the soil sweet and to make food for the plants.

MANUFACTURED PRODUCTS.

173. PRODUCTS.

Clothing,	New York City.
Collars, cuffs and shirts,	Troy.
Gloves and mittens,	Gloversville and Johnstown.
Books and papers,	New York City.
Sugar (refined),	Brooklyn.
Iron,	Central and northern sections.
Flour,	The lake plains.
Boots and shoes,	Near Binghamton.
Paper,	In the Adirondack foothills.
Knit goods,	Along the Mohawk.

Sections Producing Such.

174. New York State excels in the production of clothing.

175. It is the second in rank in the production of boots and shoes.

INDUSTRIES.

176. Manufacturing is the leading industry.

177. It leads all other States of the Union.

178. Manufacturing is greatly favored by the location of the State, the transportation routes and the distribution of the raw materials.

179. Agriculture is the second most important industry.

180. The State ranks among the first as an agricultural State.

181. Fruit growing is exceedingly important, since New York State ranks second to California, and leads in the production of apples.

182. On Long Island and near the larger cities market gardening is an important industry.

183. Dairying is the chief industry of the Finger Lake section.

184. New York is the leading dairying State in the Union.

185. Mining is an important industry, especially the mining of iron ore and the quarrying of flagstones and granite and marble. Lumbering is very important in the mountain regions. The commerce is so extensive that the sea, the rivers, the lakes, and the canals are being constantly navigated when open, and the railroads taxed to their fullest capacities. This gives employment to thousands. Fishing is also very important.

IMPORTANT CITIES.

186. Albany is the capital. It is in the eastern part of the State on the Hudson River.

187. The populattion of Albany is 100,000.

188. It is about 1/50 the size of New York City.

189. The Erie Canal made possible the growth of Albany by affording it a means of transportation before the days of railroads.

190. The Hudson, the Champlain route, the New England route, and the Erie canal all meet at Albany.

191. As it receives flour, grain, lumber and coal over the canal and distributes them by means of the routes mentioned in answer 190, it is an important shipping center.

192. The chief railroads that reach Albany are the New York Central, the Delaware and Hudson, and the Boston and Maine.

193. The Hudson river connects it with New York City.

194. It has been the capital for nearly a hundred years.

195. The State Capitol and the Educational building.

196. Manufacturing at Albany is not carried on extensively, but book printing, car building and repairing are important.

197. The location of New York City makes it possible to handle raw materials and manufactured products most conveniently, and thus the people have engaged in manufacturing in small establishments articles of higher value. On the outskirts of the city there are some very large factories.

198. Some of the chief manufactures of New York City are: Clothing, books and papers, cigars and cigarettes, fresh meats, bakery products, malt liquors, iron and steel goods, pianos, ironwork for buildings and bridges, silk and silk goods, boots and shoes, jewelry, flour, and electrical materials. Vast quantities of sugar, copper, molasses, and petroleum are refined.

199. New York City ranks first in the Union in the manufacture of clothing.

200. Buffalo is the second city in size.

201. It is 1-10 the size of New York City.

202. It is sometimes called the "Queen City of the Lakes."

203. It is in the western part of the State on the eastern end of Lake Erie.

204. Its chief manufactures are clothing, soap, flour, lumber and furniture. Much meat is packed, and the iron mills employ many of the people.

205. Buffalo has a university and a normal school.

206. Rochester is the third city of the State. It is in the western part on the Genesee River, and is about 1/20 of the size of New York City.

207. The falls in the Genesee river gave this city its start by affording power for the industries that have sprung up there.

208. Among its manufactured articles are: Clothing, boots and shoes, photographic materials, flour and canned fruits.

209. It is often called the "Flower City," on account of the nurseries there.

MANUFACTURED PRODUCTS.

210. *City.*	*Location.*	*Articles Manufactured.*
Syracuse	N. C. part	Salt, iron and steel goods, clothing, boots and shoes, and typewriters.
Solvay	N. C. part	Soda.
Haverstraw	S. E. part	Brick.
Poughkeepsie	S. E. part	Machinery, ironware, boots and shoes, silk, clothing.
Newburgh	S. E. part	Flour, cotton and woolen goods, leather.
Kingston	S. E. part	Malt liquors, leather, flour, bricks.
Peekskill	S. E. part	Bricks, hats, stoves.
Troy	E. part	Collars and cuffs, iron and steel goods, knit goods, paper and wood pulp.
Watervliet	E. part	Cannons, collars and cuffs.
Utica	E. C. part	Knit goods, machinery, wagons, lumber
Cohoes	E. part	Hosiery and knit goods, machinery.
Amsterdam	E. part	Knit goods, carpets, machinery.

Gloversville	E. part	Gloves and mittens, leather goods.
Johnstown	E. part	Gloves and mittens and leather.
Rome	C. part	Locomotives, brass, copper, steel, canned goods, knit gooods.
Ilion	C. part	Typewriters, firearms, farm implements.
Mechanicsville	E. part	Paper, hosiery, knit goods.
Hoosick Falls	E. part	Mowers and reapers.
Niagara Falls	W. part	Flour, meal, breakfast foods.
Lackawanna	W. part	Iron and steel goods.
Lockport	N. W. part	Cereals, pumps, paper.
Oswego	N. W. part	Starch, machinery, hosiery, woolen goods.
Dunkirk	S. W. part	Locomotives, engines, metal goods, lumber.
Auburn	C. part	Rope, twine, farm implements, flour, boots and shoes, woolen goods.
Ithaca	C. part	Iron and steel, machinery.
Geneva	W. C. part	Various manufactures.
Binghamton	S. part	Tobacco and cigars, clothing, medicines, furniture, carriages and wagons, machinery.
Elmira	S. part	Sash, doors and blinds, knit goods, cigars.
Jamestown	S. W. part	Worsteds, furniture, photographic materials.
Olean	S. W. part	Glass, oil, leather, machinery.
Corning	S. part	Cut and stained glass, pulp, paper, flour.
Watertown	N. W. part	Iron and steel goods, pulp, paper, flour.
Ogdensburg	N. part	Boats, lumber.

211. New York City is the chief commercial center of the State.

212. It is first as a seaport and commercial center of the Nation.

213. New York is connected with Liverpool by the Cunard line; with London by the Atlantic Transport line; with Southampton by the White Star line; with Hamburg by the Hamburg-American line; with Genoa and Gibraltar by the Cunard, North German Lloyd and the Hamburg-American lines; with Havre by the French line; with Havana by the Hamburg-American line; with Central America by the Atlas line; with South America by the Lamport & Holt and the Norton lines; with China by the American and Manchurian and the American and Oriental lines.

214. New York City is connected with Philadelphia by steamship and by rail; with Buffalo by boat; with Montreal by rail; with Boston, Savannah, Galveston and New Orleans by boat and rail; with Chicago and St. Louis by rail.

TRADE ROUTES.

215. The Central railroad runs up from New York City along the east side of the Hudson river, crosses to reach

Albany, and thence up the Mohawk valley to Syracuse, Rochester and Buffalo. This route was chosen as it was more level than others.

The West Shore, now controlled by the Central, runs up the west side of the Hudson to Albany, up the Mohawk valley and across the State along the Erie canal to Buffalo. This route was chosen for the same reason as that of the Central.

The Erie railroad starts from Jersey City, follows the Delaware river valley and on through the State to Buffalo, passing Binghamton, Elmira, Hornell, Olean, Jamestown, and entering Rochester. Its route was chosen as it follows the Delaware valley to the plains of western New York.

The Lehigh Valley road enters the State along the Susquehanna river and runs through the Finger Lake section, reaching Buffalo, Ithaca, Auburn. This route was selected for the purpose of carrying coal into the Finger Lake section.

The Lackawanna and Western also comes from the coal fields of Pennsylvania. It follows the Susquehanna through Binghamton, to Elmira, Corning, and on to Buffalo, with a branch reaching Syracuse and Oswego. Its route was chosen to get the coal trade of the section through which it extends.

The Delaware and Hudson is another line from the coal fields of Pennsylvania. Following the Susquehanna valley, it reaches Albany, Schenectady, Troy and the Lake Champlain region and Montreal in Canada. It was built for the purpose of distributing coal through its section.

The Ontario and Western connects New York City with Oswego. Middletown, Norwich, Oneida, Utica, Kingston and Oswego are the chief cities along its route, which was selected as a more nearly direct route to the Lakes. Scranton, Pa., is on a branch line to the coal fields of that State.

216. The three lines that enter New York City are the Central, the New York, New Haven and Hartford, and the Pennsylvania.

217. The Long Island railroad is on Long Island.

218. The trip would be made via the Hudson river, the Erie canal and the Great Lakes. In going the vessel would carry a cargo of manufactured goods, and in returning would carry flour, lumber, grain, coal or some ores.

219. Among the products brought to New York City by the railroads are, fruits, dairy products, poultry, live stock, various raw materials, coal, grain, etc.

GOVERNMENT.

220. The government of the State is based upon a written constitution.

221. The chief executive is called the governor.

222. The present governor is John A. Dix.

223. He was elected in 1910 by the voters of the State.

224. His term will expire Jan. 1, 1913.

225. The laws of the State are made by the legislature.

226. It is called the New York State Legislature.

227. It is composed of two houses, the Senate and the Assembly.

228. State senators are chosen by a direct vote of the people for a term of two years.

229. The assemblymen are chosen in a similar manner for a one-year term.

230. The procedure of enacting a measure as a law is similar to that of the National legislature, as it must first pass the Assembly and the Senate and then be signed by the governor.

231. The Judiciary Department of the State consists of a Court of Appeals and a Supreme Court. Each county has a County Judge and Surrogate. There are Justices of the Peace, Police Magistrates and minor judicial officials.

232. The chief duties of the Judicial Department are to interpret the laws and to punish offenders.

233. The judges are chosen by the people.

234. The local judges are Justices of the Peace and their courts Justice Courts, or in cities Police Magistrates and Police Courts.

235. The State is so divided that it may be better governed.

236. There are 61 counties in the State.

PEOPLE.

237. In round numbers the population of the State is 10,000.000.

238. New York ranks first among the States of the Union in population.

239. All the races and classes to be found in the world, especially of the commercial nations, are well represented in New York State.

240. Like the races, followers of practically every religion may be found here; education is free and compulsory. The elementary and the high schools are free. There are several colleges and normal schools.

241. Outside the larger cities the education is under the supervision and control of the State Department of Education; in the larger cities it is under the Department of Education of those respective cities.

242. It is a very successful system and ranks well with that of the leading countries of the world. It provides for the education of the child from the kindergarten through the university.

243. Elementary, high, and normal schools are free to the inhabitants of the State.

244. As there are 30 colleges and universities, 76 technical schools, a State Normal college and a Normal College for New York City teachers, and 10 State Normal schools, answers will differ.

245. The Indians now live upon reservations set aside for them by the State.

246. There are nearly 5,000 Indians in the State.

247. The Allegany, Cattaraugus and Tonawanda reservations are in the southwestern part of the State and are occupied by the Senecas. The St. Regis reservation is in Franklin county; the Tuscarora reservation in Niagara county; the Onondaga reservation in Onondaga county. The Oneida reservation is in Oneida and Madison counties. On Long Island are the reservations of the Shinnecock and the Poospatuck Indians.

248. The State has provided schools and teachers for them and has enacted laws for their protection.

HISTORY.

249. New York was first settled by the Dutch at what is now New York City in 1623.

250. Fort Orange, now Albany, was settled, and numerous smaller settlements were made along the Hudson river.

251. The Dutch based their right to the territory upon the discoveries and explorations of Henry Hudson.

252. They settled here for trading purposes.

253. As England claimed the land by right of John Smith's explorations, England afterwards captured the colony.

254. It remained a colony of England until 1777 when it was declared free.

255. In the same year the people adopted a constitution.

256. The Iroquois occupied it then.

257. They were more civilized and more warlike than the other tribes. As they were united, they were very strong.

258. The Senecas, Cayugas, Onondagas, Oneidas, Mohawks and later Tuscaroras were the tribes.

259. Mohawk, Susquehanna, Chemung, Niagara, Montauk, Shawangunk, Cattaraugus, Cayuga and many similar names remain.

INTERESTING FACTS.

260. New York City is the largest city on the western continent; and it is the second city in size in the world.

261. New York State is the most populous of the United States.

262. Likewise, it is the most wealthy.

263. New York City has a population equal to that of all the remainder of the State.

264. It is called the Empire State because it excels the other States in so many respects.

Review Exercises in Grammar

This material for drill in grammar is arranged so that it may be cut and pasted on cards for frequent use. These three sections covering Review in Grammar, Drill on Participles and Miscellaneous Sentences will be reprinted in pamphlet form for sale at fifteen cents a copy or ten cents each by the hundred.

REVIEW IN GRAMMAR. No. 1.

1. Define and illustrate attribute complement.
2. Give formation of word *complement.*
3. What other name is used for attribute complement?
4. What is a modified subject? Modified predicate?
5. Diagram:

Good! That ball was well caught.
Here comes the train.
My blood runs cold.

REVIEW IN GRAMMAR. No. 2.

6. Define and illustrate object complement.
7. What parts of speech may be used as attribute complement? Illustrate.
8. Mention the eight parts of speech.
9. Mention the parts of the sentence.
10. Analyze:

"If!" What do you mean by "if"?
Do not awake the child.

REVIEW IN GRAMMAR. No. 3.

11. Define sentence, subject, predicate.
12. Give formation of the word adjective.
13. Define and illustrate object complement.
14. Give a sentence containing all the parts of speech.
15. Diagram:

Hush! You will scare the birds.
He lifted high his brawny hand.

REVIEW IN GRAMMAR. No. 4.

16. What does the word verb mean?
17. Give five rules for the use of capitals.
18. Tell parts of speech: The noisiest dogs are generally the least dangerous.
19. Arrange: earth, in, coal, the, corn, hide, the, of kernels, The, farmers.
20. Diagram:

He is a boy of courage.
Well! Have you solved the example at last?

REVIEW IN GRAMMAR. No. 5.

21. Give four uses of the apostrophe. Illustrate.
22. Diagram: They have laid waste his dwelling-place.
23. Give three directions for the arrangement of adjectives in a sentence. Illustrate.
24. Define punctuation.
25. Diagram:

Boston is the largest city in New England.
Are you not interested in yourself?

REVIEW IN GRAMMAR. No. 6.

26. Mention and illustrate five uses of the comma.

27. Diagram:

When did Columbus discover America?

You have been idle and now you must study diligently.

The sails of English ships whiten every sea.

Long among them waited a maiden.

28. Define English Grammar.

REVIEW IN GRAMMAR. No. 7.

29. Illustrate two uses of the hyphen.

30. Analyze:

Columbus sailed from Palos in 1492.

We came on the trail of the Indians in the evening.

The Egyptians embalmed bodies.

David became king.

The owl looks wise.

Men are but children of a larger growth.

REVIEW IN GRAMMAR. No. 8.

31. Define noun, pronoun.

32. Define adjective.

33. Diagram:

We will know our lesson better tomorrow.

A bobolink and a robin sang a sweet duet.

Fame is the fragrance of heroic deeds.

"We heard the bleating of the flock,
And the twitter of birds among the trees."

34. Arrange: The, quickly, very, most, fairest, wither, flowers, usually.

REVIEW IN GRAMMAR. No. 9.

35. Define adverb.

36. Show formation of the word adverb.

37. Write a sentence with three adjectives forming a compound attribute complement.

38. Diagram:

King Alfred was a sublime character.

"God sent his singers upon earth
With songs of sadness and of mirth."

REVIEW IN GRAMMAR. No. 10.

39. Define conjunction.

40. Arrange: Hiawatha, birds, many, learned, the, of names, the.

41. Analyze:

Windsor Castle is the residence of the King of England.

The wise and the strong should seek the welfare of the weak.

42. Correct: The work looks nicely.

REVIEW IN GRAMMAR. No. 11.

43. Define interjection.

44. Correct: A tall lady stood before a mirror with dark eyes.

45. Arrange: The, breeze, tassels, the, in, softly, on, maple trees, the, sway.

46. Diagram:

The train stops only at the station.

The billows rolled and plunged upon the sand.

REVIEW IN GRAMMAR. No. 12.

47. Define compound predicate.

48. Correct: I feel sickly.

49. Analyze:

Neatness and accuracy appeared everywhere in their work.

Good name in man or woman is the immediate jewel of their souls.

REVIEW IN GRAMMAR. No. 13.

50. Name the vowels.

51. Define compound complement.

52. Diagram:

The door-step to the temple of wisdom is a knowledge of our own ignorance.

No noble human thought can ever come to naught.

REVIEW IN GRAMMAR. No. 14.

53. Define preposition.

54. Name the verbs that generally take a predicate noun, pronoun or adjective.

55. Write a sentence with a compound object complement.

56. Analyze:

Absence of occupation is not rest.

The paper is just below the passing-mark.

REVIEW IN GRAMMAR. No. 15.

57. Define phrase.

58. Write a sentence with a noun used as adverb modifier.

59. What is the difference in the uses of oh and O?

60. Diagram: Success comes only from best efforts.

REVIEW IN GRAMMAR. No. 16.

61. Define language.

62. What part of speech is the subject of a sentence? Why?

63. Diagram: In the lexicon of youth there's no such word as *fail.*

64. Arrange these adjectives: Several, grassy, beautiful, green, long slopes are visible.

REVIEW IN GRAMMAR. No. 17.

65. Define explanatory modifier or appositive.

66. Explain uses of exclamation point.

67. Explain how each form may be correct:

(a) The pupil acted strange.

(b) The pupil acted strangely.

68. Parse every word: Mere strength of understanding would have made him such in any age.

REVIEW IN GRAMMAR. No. 18.

69. Define possessive modifier.

70. Analyze: There is about the whole book a vehement, contentious, replying manner.

71. Correct:

It is me.

That chord sounded harshly.

Some pupils learn easy.

REVIEW IN GRAMMAR. No. 19.

72. Why are some adjectives called predicate adjectives? Illustrate.

73. Which is the most important part of speech? Why?

74. Diagram:

Jupiter is the largest of the planets.

Some are never tardy or absent.

REVIEW IN GRAMMAR. No. 20.

75. Write a sentence with a phrase modifying an adjective.

76. Ditto modifying a pronoun.

77. Give equivalents of these abbreviations: P. M., A. M., A. B., doz., do, p., L.L. D., Ph. D., pp., Dr., Cr., Av. or Ave., Esq., Co., Ga., Mr., Mrs., Messrs. Prof., B. S., R. R., Fla., Mo., bbl., viz., i. e., Hon.

78. Punctuate: E M Blake A B C E

REVIEW IN GRAMMAR. No. 21.

79. Distinguish predicate adjective and adverb modifier. Illustrate by sentences.

80. Analyze: Henry the Great consecrated the Edict of Nantes as the very ark of the constitution.

REVIEW IN GRAMMAR. No. 22.

81. Use *very* as an adjective.

82. Change to equivalent phrases and use in sentences: why, nowhere, hence, lengthy, lucidly.

83. Diagram: Tush! tush! it will not appear again.

REVIEW IN GRAMMAR. No. 23.

84. Correct:

Don't speak harsh.

She looks beautifully.

85. Analyze:

The optic nerve passes from the brain to the back of the eyeball and there spreads out.

We are here.

REVIEW IN GRAMMAR. No. 24.

86. The expressions, "I don't know," and "I can't tell" are not hopeful signs of pupils' progress. Explain *marks, analyze, and diagram.*

87. Analyze and parse:

The lamp of a man's life has three wicks—the brain, the blood, and the breath.

REVIEW IN GRAMMAR. No. 25.

88. In what ways may a noun modify another noun? Illustrate.

89. Compose sentences containing these expressions as appositives or explanatory modifiers: The graduating class; the most difficult lesson; the Imperial City; the metropolis of America; the Sage of Monticello.

REVIEW IN GRAMMAR. No. 26.

90. Punctuate: Palestine or the Holy Land; thought expressed or language; Buffalo or the Queen City of the Lakes; Cromwell or the Bloody Monster.

91. Write the possessive of these words: man, men, boys, fairy, fairies, hero, James, lady, calves, calf.

REVIEW IN GRAMMAR. No. 27.

92. What pronouns are never used as predicate pronouns?

93. What pronouns form the possessive without the apostrophe?

94. What nouns may be used as adverb modifiers?

REVIEW IN GRAMMAR. No. 28.

95. What are two kinds of complements? What parts of speech may be used for each?

96. Illustrate your answers for 95.

97. Diagram:

We went home that way.

REVIEW IN GRAMMAR. No. 29.

98. Analyze and diagram:

The dealer pays five cents a pound.

The tourists climbed a mile up the mountain.

The Ohio River flows southwest.

The Empire Express goes a mile a minute.

REVIEW IN GRAMMAR. No. 30.

99. Diagram: Cromwell's rule as Protector lasted from 1653 to 1658.

100. Analyze: The famous Charter Oak of Hartford, Connecticut, fell August 21, 1856.

REVIEW IN GRAMMAR. No. 31.

1. Every day is a fresh beginning,

2. Every morn is a world made new.

3. You who are weary of sorrow and sinning,

4. Here is a beautiful hope for you.

5. A hope for me and a hope for you.

—Susan Coolidge.

101. Classify the clauses in this stanza.

102. Syntax of beginning (line 1) and hope (line 5).

103. Office of new (line 2).

104. Office of here (line 4).

105. Parse who (line 3).

106. What kind of prepositional phrase is *of sorrow* (line 3)?

107. Tell part of speech of every word.

108. Name the properties of nouns.

109. Name the properties of verbs.

110. Decline the personal pronouns.

REVIEW IN GRAMMAR. No. 32.

Agreement of Verbs.

Complete the sentences.

111. Each paper and each book——in its place. (was, were.)

112. Where———your father and mother live?

113. Neither silk nor cotton——produced in England.

114. ———a letter and a paper require the same postage? (do or does).

115. Either John or you——whispering.

116. Rain and snow (*falls or fall*) in great quantities.

REVIEW IN GRAMMAR. No. 33.

Uses of well.

117. The bucket is in the *well.*

118. The child seems *well*

119. The class sings *well.*

120. *Well* may be an adjective.

121. The oils *well* up.

122. Well! Well! See the grammar!

REVIEW IN GRAMMAR. No. 34.

Agreement of Verbs.

Complete the sentences.

123. Nobody among these pupils——responsible.

124. The multitude——large.

125. The herd——large.

126. Time, as well as patience,——required. (is, was.)

127. Every man, woman and child——lost.

128. Each boy and each girl——responsible.

129. No delay, no excuse——accepted. (is, are.)

REVIEW IN GRAMMAR. No. 35.

Analysis and Parsing.

130. It was Monday.

131. The team played ball.

132. The principal was present.

133. The teachers were here.

134. The game was won.

135. The bat was a present.

136. The ball was presented.

137. Who is it?

138. Who has it?

139. Has he gone home?

140. Work an hour.

141. Pass in.

142. Sit up.

143. Ah! it is well!

144. Think a little.

REVIEW IN GRAMMAR. No. 36.

Home Work or Seat Work.

145. Write one sentence containing all the parts of speech.

146. Write one sentence containing a subject pronoun modified by an adjective and an object noun with a possessive modifier.

147. Use *home* after *go*, and then parse *home* and *go*.

148. Outline the parsing of an adverb and then parse an adverb.

149. Write the possessive singular and plural of *man, ox, child, penny, goat.*

150. Define and illustrate simple, compound, primitive and derivative words.

REVIEW IN GRAMMAR. No. 37.

Home Work or Seat Work.

151. Show formation and meaning of the word (a) complement, (b) objective.

152. Illustrate the common form, the progressive form, and the emphatic form of the verb.

153. Give list of verbs that generally take an attribute complement. Illustrate each one.

REVIEW IN GRAMMAR. No. 38.

154. What is meant by adverbial objective?

155. Nouns denoting *measure, quantity, weight, time, value, distance,* or *direction* are generally used as adverb modifiers, and are equivalent to a phrase without a preposition.

156. Write a sentence for each of the seven uses indicated by the words in italics in the rule in 155.

REVIEW IN GRAMMAR. No. 39.

157. The verbs *bid, dare, feel, hear, let, make, need, see, behold,* and their participles, usually take the infinitive after them, without the preposition TO.

158. Illustrate by a sentence each of the uses indicated by the words in italics in 157.

REVIEW IN GRAMMAR. No. 40.

159. Parse every word in this sentence: Why is October called the eighth month?

160. Name and illustrate four uses of the word *that.*

161. Show that *use in a sentence* determines the part of speech.

Drill on Participles

DRILL ON PARTICIPLES. No. 1.

1. Our united effort could not prevent his going.

2. We, being very weary, rested ourselves by lying in the shade.

3. Wandering from place to place, she patiently waited her lover.

4. The pupils came rejoicing.

DRILL ON PARTICIPLES. No. 2.

5. The balloon rising swiftly was soon out of sight.

6. Reading and writing are indispensable in education.

7. Hoarding money is the only business of his life.

8. I notice the standings rising.

DRILL ON PARTICIPLES. No. 3.

9. Who has not heard the crying of the children?

10. Quickly advancing, he gave the signal by clapping his hands.

11. He spent hours in correcting and polishing his composition.

DRILL ON PARTICIPLES. No. 4.

12. Our morning exercises, singing songs and reading scripture, are an agreeable opening for the day.

13. Here is a paper neatly written, properly punctuated, carefully thought out, and placed on my desk at the appointed time.

DRILL ON PARTICIPLES. No. 5.

14. Tired of persuasion, he began to use force.

15. He seemed tired of persuading.

16. Persuading by kindness is sometimes the making of hard tasks for one's self.

DRILL ON PARTICIPLES. No. 6.

17. The groaning of prisoners and the clanking of chains were heard.

18. Studying every night, reciting every day, and then failing in examination once a month are experiences that do not produce results pleasing to the ordinary pupil.

DRILL ON PARTICIPLES. No. 7.

19. In carefully preparing every assigned lesson, one is doing one's duty to the class and to the school.

20. A penny saved is a penny earned.

21. The brook, flowing rapidly, makes a pleasing sound.

DRILL ON PARTICIPLES. No. 8.

22. We should encourage reading good books.

23. The tune, "Napoleon crossing the Alps," is familiar to Frenchmen.

24. Keep the pupils working.

25. Your studying now will prevent worrying in January.

DRILL ON PARTICULARS. No. 9.

26. Slowly ascending the pathway, the peasant's son, dressed in tattered clothing, was thinking of honors not yet secured, of fortunes not yet acquired, and of rights still denied to him by those of the ruling class.

DRILL ON PARTICIPLES. No. 10.

27. The harbor bar is moaning.

28. Early rising makes one healthy, wealthy, and wise.

29. My going will depend upon your coming.

DRILL ON PARTICIPLES. No. 11.

30. Niagara comes roaring down.

31. My objections to your reciting are the ones stated an hour ago.

32. Start the ball rolling.

DRILL ON PARTICIPLES. No. 12.

33. The complement is the part completing the sentence.

34. Participles, or words partaking of the nature of two parts of speech, have many and varied uses.

DRILL ON PARTICIPLES. No. 13.

38. Use *shining* as (a) mere adjective; (b) mere noun; (c) mere verb; (d) verb and adjective; (e) verb and noun.

39. Illustrate participle used as (a) subject, (b) object, (c) principal term in a phrase, (d) objective complement, (e) attribute complement.

DRILL ON PARTICIPLES. No. 14.

40. Tell use of participles in italics.

(a) The pupil stands *reciting*.

(b) Seeing is *believing*.

41. Write a sentence whose object is a participle having an object.

42. Write a sentence containing a participle followed by an attribute complement.

DRILL ON PARTICIPLES. No. 15.

43. Write a sentence whose subject is a participle having an object.

44. Diagram sentences used in 40, 41, 42 and 43. Analyze the sentences in 45, 46, 47, 48, 49 and 50.

45. Biography is history teaching by example.

46. They went to the temple suing for pardon.

47. The guilty soldier stood terrified before his accusers.

48. Priscilla continued spinning.

49. By writing slowly you may learn to write legibly.

50. It is easy finding reasons why others should be patient.

Drill in Grammar

MISCELLANEOUS SENTENCES.

1. Eli Whitney invented the cotton-gin in 1793.

2. By other's faults, wise men correct their own.

3. Oglethorpe settled Georgia as a home for debtors.

4. Holyoke manufactures bicycles, cloth and paper.

5. The Erie canal connects Lake Erie and the Hudson River.

6. Samuel F. B. Morse perfected the telegraph in 1844.

7. All that I am, all that I hope to be, I owe to my angel mother.—Lincoln.

8. Men are but children of a larger growth.

9. The skipper, he blew a whiff from his pipe.

10. Your timely utterance gave my thought relief.

11. New-made honor doth forget men's names.

12. The power of music all our hearts allow.

13. The star and crescent graced his shield.

14. Here sailing ships delight the wandering eye.

15. I knew him well, and every truant knew.

16. Worth makes the man, the want of it the fellow.

17. Newton studied the law of gravitation.

18. Last night the moon had a golden ring.

19. Machetes in hand, the Cubans charged the enemy.

20. Loving our neighbors is fulfilling the law.

21. The tribe of Judah was scattered abroad.

22. Thompson, the poet, was the contemporary of Hume, the historian.

23. You may tell me the story on the way thither.

24. There are many historic towns in Massachusetts.

25. Love all, trust few, do wrong to none.

26. The nearer of the two duties is the one to perform first.

29. The passionate are like men standing on their heads; they see all things in the wrong way.

30. Idleness may dream the dream of greatness, but only industry can accomplish it.

31. Many scholars call Moses, Homer, St. Paul and Milton the world's greatest men.

32. "Oh! I never thought." "Why, you fool! what were you *thinking* about, when you *should* have thought?"—Chesterfield.

33. Mere knowledge is not power, but knowledge with *thought* is power.

34. He had faced unmoved the frowns of indignant and contemptuous men, and stood calm amid the torrent of bitter scorn from burning lips.

35. That is a great soul that can continue courageous in the way of any duty, when the forfeiture of his daily bread is the reward of perseverance.

36. That the Suez canal will be protected for the world's use, in any event, no doubt need be entertained; but what changes may take place in the government of Egypt it is impossible to foresee.

37. The Nile ranks only fourth among African rivers in the amount of water discharged.

38. The fertile flood plain of the Nile is bordered by steep, rocky bluffs, beyond which stretches the desert.

39. Thus it was that while Europe was sunk in the intellectual gloom of the Middle Ages, Egypt again became the home of science and philosophy.

40. LaFayette returned home to France after his visit at Washington's home in Mount Vernon, Virginia.

41. Roger Williams, an exiled preacher of Salem, found a home among the Indians of Rhode Island in 1636.

42. Young gentlemen, your spirits are too bold for your years.

43. Three days later the Americans entered Malobos, and there they showed the Filipinos the advantage of modern methods of warfare.

44. Montezuma, at the time of his death, was about forty-one years old, of which he reigned eighteen.

45. The axis of the earth is inclined twenty-three and one-half degrees.

46. The torrid zone is forty-seven degrees wide.

47. The royal edifices of Quito were constructed of huge masses of stone, many of which were carried all the way from Cuzco, distant several hundred leagues.

48. A few hours later, a messenger informed the Spaniards that the Inca would pitch his tent the ensuing night, and enter the city the following morning.

49. To Pizarro's secretary, the Peruvian warriors, as they lay encamped among the hills, seemed about 30,000.

50. The book to read is not the one that thinks for you, but the one which makes you think.—Dr. McCosh.

Interpretative Test in Grammar

The forty questions on the selection from Edison suggest an interpretative study rather than a memory test. The pupil is held to the thought at the same time he is recalling formal classifications. Should we not furnish many such guiding tests in our general reviews?

SELECTION FOR STUDY.

I was singing to the mouthpiece of a telephone, when the vibrations of my voice caused a fine steel point to pierce one of my fingers held just behind it. That set me to thinking. If I could record the motions of the point and send it over the same surface afterward, I saw no reason why the thing would not talk. I determined to make a machine that would work accurately, and gave my assistants the necessary instructions, telling them what I had discovered. That's the whole story. The phonograph is the result of the pricking of a finger. —*Thomas A. Edison.*

QUESTIONS ON THE SELECTION.

1. This selection has declarative sentences. What are the other kinds from form of expression?

2. According to number and rank of clauses, sentences are simple, compound or complex. Find two kinds in this selection.

3. Dependent clauses are noun, adjective or adverbial. Select one of each kind.

4. Conjunctions, relative pronouns and conjunctive adverbs may be used as connectives. Select and classify the connectives used.

5. Adjective clauses may be introduced by the conjunctive adverbs, why, when, where. The clause thing—talk is adjective. Why?

6. Adjective elements modify nouns or pronouns. Find illustrations of each.

7. Adverb clauses may express time, cause, etc. Complete this statement to include five uses, and then select two illustrations.

8. Mention five uses of noun clauses. What is the noun clause here? What is its use?

9. What parts of speech may be used as subject of a sentence? Select and classify all the subjects.

10. Make a list of the predicate verbs.

11. Objects, according to form, are words, phrases or clauses. Is each kind used here?

12. Phrases may be used as nouns, adjectives or adverbs. Make a list of all the phrases and after each write its use as noun, adjective or adverb.

13. Define infinite phrase.

14. Why is not the phrase *to the mouthpiece* an infinitive phrase?

15. Is to make used as a noun or an adverb? Why?

16. Verbs have common form, emphatic form and progressive form. Name a verb in the progressive form.

17. Define participle. Select two participles and state use of each.

18. The word pricking is an abstract noun, not a participle. Why? Give a rule for distinguishing participles and abstract nouns of this kind.

19. Parse held.

20. What does just modify?

21. Give principal parts of set.

22. What is the syntax of me?

23. Diagram: That set me to thinking.

24. Write all the adverbs in a column; write kind after each; make list of uses of adverbs not illustrated in this selection.

25. Some verbs take two objects, one of the person and the other of the thing. Find illustrations of this rule of syntax.

26. What is meant by dative or indirect object? Any illustrations?

27. Parse would talk.

28. Classify the adjectives.

29. Parse what.

30. Find illustrations of three tenses.

31. What case is not illustrated here?

32. What element is compound?

33. All the plural forms are under one rule. Give the rule.

34. The apostrophe denotes the omission of letters or words. Find one illustration; make an illustration of the use not found here.

35. State rule for comma after (a) telephone, (b) instructions.

36. What case is Edison? Why?

37. Name six uses of nouns. Which uses illustrated in this excerpt?

38. Give two interpretations of the use of the clause I had discovered. Which do you prefer? Why?

39. Parse story.

40. Find or make an illustration of a pronoun modified by a phrase.

41. Observe the words one by one and see if you can understand the use of each one.

Drill in Primary Grades

SPELLING.

By Teachers in P. S. 150, Brooklyn.

KATHERINE GERHARDT ETHEL J. FYFE FRANCES L. BERGEN PHOEBE A. HAHN
JESSIE L. COOK ELIZABETH R. CROWLEY

2A SPELLING.

By KATHERINE GERHARDT.

1. her
2. had
3. good
4. for
5. house
6. have
7. little
8. one
9. three
10. was
11. are
12. mamma
13. brown
14. every
15. cried
16. like
17. is
18. you
19. see
20. your
21. saw
22. said
23. these
24. very
25. who
26. come
27. door
28. did
29. friend
30. made
31. next
32. over
33. got
34. out
35. just
36. its
37. into
38. hot
39. water
40. papa
41. head
42. eyes
43. when
44. were
45. mouse
46. other
47. to
48. he
49. trees
50. know
51. shall
52. snow
53. sun
54. red
55. run
56. wind
57. dog
58. cry
59. from
60. room
61. window
62. man
63. bed
64. more
65. gave
66. frost
67. road
68. home
69. poor
70. mother
71. Jack
72. cow
73. boy
74. been
75. leaves
76. eating
77. egg
78. bread
79. butter
80. grow
81. arm
82. time
83. girl
84. garden
85. two
86. thank
87. feet
88. four
89. five
90 six
91. seven
92. eight
93. nine
94. ten
95. Monday
96. sweet
97. grass
98. blue
99. any
100. kiss
101. sister
102. Tuesday
103. pretty
104. comb
105. nose
106. moon
107. rose
108. hair
109. Bell
110. each
111. queer
112. plant
113. does
114. down
115. done
116. May
117. now
118. cut
119. Wednesday
120. keeps

121. legs
122. cherry
123. apple
124. sang
125. flying
126. full
127. baby
128. bird
129. begin
130. Thursday
131. Fred
132. heard
133. his
134. Friday
135. once
136. game
137. lady
138. clouds
139. child
140. Saturday
141. flour
142. drink
143. robin
144. puss
145. dry
146. kitty
147. dinner
148. Sunday
149. sit
150. they

SPELLING FAMILIES.

1. big
fig
pig
rig
twig

2. bind
find
kind
mind

3. ill
bill
fill
hill
mill
sill
will
kill
still

4. lay
day
gay
ray
say
may
bay
stay
way
gray

5. could
would
should

6. ear
dear
fear
hear
clear
near

7. kick
pick
sick
tick
stick
brick
trick

8. lock
rock
mock
dock
clock
knock

9. fight
light
night
might
right
sight
tight

10. back
pack
rack
sack
tack
black
track
Jack

11. bell
fell
sell
tell
well
smell
shell
Nell

12. ice
mice
nice
rice
slice
twice

13. few
mew
new
pew
grew
drew
threw

14. talk
walk
chalk
stalk

15. old
bold
cold
fold
gold
hold
sold
told

16. and
band
hand
land
sand
grand
stand

17. an
can
fan
man
ran
Nan

18. eat
beat
heat
meat
neat
seat
cheat

19. ate
late
mate
rate
Kate
hate
date

20. bite
kite
white
write

21. more
tore
sore
wore

22. bake
cake
lake
make
wake

23. fire
hire
tire
wire

24. cage
page
rage
wage

25. hide
ride
side
wide
slide

26. book
cook
hook
look
took
shook

27. aid
laid
paid
braid

28. oat
boat
coat
goat
float

29. ail
fail
hail
mail
pail
tail
sail
nail

30. ring
sing
wing
bring
thing

31. boot
root
shoot

32. long
song
wrong

33. bent
went
sent
tent

34. deed
need
feed
seed
weed
bleed
greed

35. face
lace
race
Grace

36. fast
mast
past
last

37. dish
fish
wish

38. gain
rain
pain
lain
stain

2B SPELLING.

By Frances L. Bergen.

1. color
2. dirty
3. all
4. apples
5. should
6. only
7. oak
8. own
9. sharp
10. caught
11. carpet
12. teacher
13. true
14. running
15. beautiful
16. fruit
17. about
18. again
19. coal
20. cover
21. new
22. pity
23. off
24. after
25. before
26. beside
27. buy
28. happy
29. said
30. sweet
31. work
32. yard
33. warm
34. then
35. until
36. many
37. salt
38. sugar
39. please
40. iron
41. father
42. green
43. flowers
44. needles
45. pocket
46. tailor
47. root
48. oven
49. rabbit
50. sitting
51. school
52. breakfast
53. bottle
54. blood
55. coffee
56. curtain
57. minute
58. hour
59. chicken
60. corner
61. around
62. afraid
63. broken
64. burst
65. horses
66. shape
67. what
68. speak
69. shelf
70. mouth
71. looked
72. heart
73. why
74. yellow
75. teeth
76. supper
77. touch
78. tooth
79. summer
80. across
81. money
82. hungry
83. early
84. another
85. children
86. great
87. country.
88. leaves
89. people
90. under
91. shoes
92. leather
93. Henry
94. September
95. April
96. August
97. Brooklyn
98. years
99. listen
100. kindness
101. January
102. Helen
103. thought
104. sorry
105. ready
106. pieces
107. potato
108. month
109. ladies
110. write
111. which
112. George
113. February
114. daughter
115. October
116. Mr.
117. rough
118. twelve

119. thirteen
120. market
121. May
122. June
123. knocked
124. July
125. kitchen
126. heaven
127. holiday
128. idle
129. march
130. knew
131. noise
132. nearer
133. quiet
134. pitcher
135. quickly
136. nothing
137. soil
138. shining
139. young
140. woman
141. point
142. rubbed
143. prayer
144. often
145. promise
146. picture
147. through
148. stopped
149. angry
150. begged
151. changed
152. clothes
153. enough
154. doesn't
155. climb
156. against
157. gathered
158. frightened
159. feathers
160. Charles
161. December
162. making
163. health
104. laugh
165. heavy
166. bathed
167. chase
168. easily
169. evening
170. choose
171. wealth
172. gently
173. honest
174. gaily
175. haven't
176. pleasant
177. sure
178. leaves
179. straight
180. tenth
181. thirsty
182. wheat
183. watch
184. sewed
185. softly
186. yesterday
187. swimming
188. soldier
189. thunder
190. wicked
191. wonder
192. American
193. weather
194. voice
195. nicely
196. November

2B SPELLING SERIES

1. *ept*
   kept
   wept
   crept
   slept
   swept
2. *eal*
   meal
   heal
   deal
   real
   peal
   steal
   squeal
3. *ied*
   tied
   dried
   tried
   spied
4. *ain*
   lain
   gain
   pain
   rain
   vain
   plain
   brain
   grain
   chain
   stain
   drain
5. *atch*
   batch
   catch
   hatch
   latch
   match
   patch
   snatch
   scratch
6. *awn*
   lawn
   dawn
   pawn
   drawn
7. *ale*
   bale
   gale
   sale
   pale
   tale
   scale
8. *eap*
   reap
   leap
   heap
   cheap
9. *aint*
   faint
   paint
   saint
   taint
10. *ie*
    die
    pie
    lie
    tie
11. *igh*
    nigh
    sigh
    high
    thigh
12. *oak*
    soak
    cloak
13. *ipe*
    pipe
    ripe
    gripe
    tripe
    stripe
14. *ife*
    pife
    life
    knife
    wife
    strife
15. *elt*
    belt
    melt
    pelt
    smelt
    dwelt
    knelt
16. *ean*
    bean
    lean
    mean
    clean
17. *aid*
    laid
    maid
    paid
    braid

18. *ies*
lies
ties
pies
flies
dries
tries

19. *ive*
hive
dive
alive
drive
strive
thrive

20. *ust*
dust
rust
just
must
crust
trust

21. *ung*
hung
lung
sung
stung

22. *ask*
cask
task
mask
flask

23. *unk*
bunk
sunk
drunk
trunk
spunk

24. *ang*
bang
rang
sang
clang
sprang

25. *amp*
camp
damp
lamp
tramp
stamp

26. *ade*
fade
made
blade
shade
grade
trade

27. *oom*
room
loom
bloom
broom

28. *ump*
bump
dump
lump
jump
hump
pump
thump

29. *urn*
burn
turn
churn
spurn

30. *awl*
bawl
brawl
crawl
shawl
sprawl

31. *ounce*
bounce
pounce
flounce

32. *eam*
beam
seam
team
cream
gleam
dream
stream

33. *ose*, long o
rose
hose
nose
chose
those

34. *oast*
boast
roast
toast
coast

35. *uff*
buff
cuff
muff
gruff
stuff

36. *one*, long o
bone
tone
stone
drone
throne

37. *ance*
dance
lance
glance
chance
prance

38. *ange*
range
change
strange

39. *arch*
march
parch
larch
starch

40. *ought*
bought
fought
sought
brought
thought

41. *eer*
beer
deer
cheer
queer
steer

42. *own*
mown
sown
flown
grown
thrown

43. *itch*
ditch
hitch
pitch
switch

44. *elf*
self
shelf

45. *edge*
hedge
ledge
wedge
pledge
sledge

46. *ift*
lift
rift
gift
drift
shift
swift
thrift

47. *eak*
beak
leak
weak
speak
peak
streak
creak

48. *ead*
dead
head
read
bread
thread
spread

49. *alk*
talk
walk
chalk
stalk

50. *are*
bare
care
dare
fare
share
spare
square
scare

51. *east*
beast
feast
least
yeast

52. *own*
gown
brown
crown
drown
frown

53. *able*
sable
table
stable
fable

54. *ears*
bears
fears
tears
wears

55. *eir*
heir
their

56. *air*
fair
hair
pair
stair
chair

57. *idge*
ridge
bridge

58. *aught*
naught
taught

59. *oil*
coil
boil
soil
toil
spoil

60. *ear*
fear
dear
hear
tear
near
year
clear

3A SPELLING.

By Jessie L. Cook.

swing
visit
blossoms
barked
garden
darted
saucy
muslin
busy
finest
Elsie
sister
enough
growing
bought
sleepy
climbed
another
among
money
cousin
pleasure
without
dragging
wonder
children
rabbits
because
stories
ladder
coffee
suffer
hungry
squealing
contented
shouted
stumbled
against
quickly
gently
basket
careful
joyful
believe
whistle
watch
wheel
dusty
between
danger
voice
closet
spoken
fondly
opened
mountain
gather
persons
reached
understood
golden
twinkle
faintly
silver
studied
hundred
picture
remember
foolish
geese
slowly
noticed
fluttering
birthday
curtain
Walter
twenty
earned
expect
holding
easier
suppose
bravest
dainty
summer
smiling
wagging
dearly
loved
saved
break
pieces
saucer
heavy
suddenly
shook
herself
something
sorry
pale
parlor
storm
beating
hurls
jerk
brightly

fond
grateful
fleet
runner
raveled
rope
pulley
reached
almost
stove
range
dishes
knife
scissors
lying
shelf
instead
sometimes
sunrise
wash
settle
wheat
smallest
thimble
ought
thread
soap
wished
Harry
done
work
hearth
used
queer
fairy
looking
seemed
talk
when
weapons
splendid
pony
bonnet
apron
thirsty
orphan
neared

brook
pebbles
merrily
sharp
weeds
butter
milk
cupboard
away
dove
behind
barn
young
build
nest
minutes
eighteen
lion
lonely
tiger
grain
laugh
suffered
puzzled
field
wondered
pulled
darkness
daughter
forest
bleating
wolves
crept
lighting
warmed
willow
orchard
waved
singing
happy
heart
breeze
rosy
sniffed
camel
desert
eastern

master
burning
drink
water
weary
robins
smell
parrot
talking
blue
waves
lesson
kittens
purred
claws
funny
mossy
stalk
beaten
mills
flour
ground
ripe
rough
sown
country
journey
plate
comfort
scarce
kitchen
style
cellar
hole
weak
fare

hidden
river
Washington
known
captain
truth
different
swords
throw
honor
chimney
thirteen
fifty
ready
voyage
tears
sailor
February
George
soldiers
benches
rather
studying
writing
merely
behavior
consent
English
Indians
owned
wisdom
attacked
defeated
president
honored

3B SPELLING.

By Elizabeth R. Crowley.

1. hotel
2. crushed
3. cellar
4. alley
5. hoist
6. echo
7. firemen
8. through
9. sill
10. ablaze
11. street
12. quiet
13. risk
14. lives

15. says
16. calmly
17. can't
18. cannot
19. saved
20. follow
21. below
22. four
23. directly
24. across
25. close
26. moment
27. climb
28. creep
29. nearer
30. too
31. lying
32. fall
33. edge
34. legs
35. swings
36. waist
37. toward
38. sharply
39. quickly
40. goes
41. seize
42. wrist
43. together
44. touching
45. word
46. tug
47. lift
48. vain
49. weight
50. heavy
51. inch
52. sixty
53. ground
54. beyond
55. swinging
56. figures
57. black
58. clouds
59. bursts
60. hope
61. forth
62. flash
63. their
64. hold
65. there
66. wider
67. sweeps
68. human
69. helpless
70. pendulum
71. until
72. within
73. clothing
74. safety
75. breathless
76. sightless
77. faint
78. spray
79. engines
80. roar
81. gradually
82. rested
83. soon
84. able
85. walk
86. Chinese
87. covered
88. reeds
89. high
90. light
91. mat
92. hangs
93. around
94. wall
95. clay
96. beautiful
97. lakes
98. flowers
99. where
100. sleep
101. nine
102. which
103. hundreds
104. shaved
105. except
106. braided
107. tied
108. ribbon
109. proud
110. anything
111. gowns
112. sleeves
113. wooden
114. sisters
115. smallest
116. months
117. sticks
118. rice
119. melons
120. always
121. kites
122. shapes
123. floating
124. every
125. China
126 grandfather
127. fond
128. flying
129. color
130. goes
131. carry
132. feast
133. carries
134. fireworks
135. country
136. study
137. known
138 bake
139. pass
140. bow
141. recite
142. letters
143. thing
144. parents
145. even
146. obey
147. women
148. who
149. came
150 God
151. that
152. did
153 do
154. begin
155. end
156. backward
157. workmen
158. when
159. enter
160 keep
161. shook
162. shake
163. tea
164. too
165. putting
166. milk
167. sugar
168. ought
169. only
170. understood
171. locomotive
172. chaff
173 squeaked
174. presently
175. wicked
176. wasted
177. roasted
178. splendor
179. serene
180. lonely
181. friendly
172. gravely
183. whisked
184. repeated
185. valley
186 really
187. starve
188. dreadful
189. feathery
190. buttercup
191. learning
192. blossoms
193. against
194. snail
195. brought
196. seashore
197. seashell
198 might
199. selfish
200. weakness
201. crumb
202. strength

203. wrap
204. mirror
205. hopping
206. drooping
207. motion
208. force
209. puzzled
210 straightened
211. dancing
212. fastened
213. tortoise
214. refused
215. October
216. piece
217. peace
218. Eskimo
219. reindeer
220. stretches
221. Arctic
222. doubt
223. sealskin
224. hatchet
225. suit
226. suppose
227. freezes
228. dripping
229. removes
230. sponges
231. circle
232 erect
233. prevent
234. knees
235. afford
236. however
237. chain
238. weather
239. unless
240. chimney
241. handful
242. enjoys
243. barrel
244 aunt
245. sailing
246. needles
247. stooped
248. arithmetic
249. January
250. February
151. December
252. ashamed
253. forgiven
254. powdered
255. linnet
256. columbine
257. daisies
258. wrapped
259. beaver
260. experience
261. princess
262. palace
263. piano
264. large
265. carefully
266 forgotten
267. opened
268. furniture
269. tower
270. immense
271. clumsy
272. eager
273. different
274. language
275. glistened
276. August
277. dying
278. raindrops
279. flashes
280. answer
281. receives
282. breathed
283. comfortable
284. bargain
285. leaves
286. fortunate
287. sometimes
288. returned
289. proposed
290 cheerfully
291. indeed
292. delighted
293. questions
294. possible
295. dollars
296. pointed
297. contentment
298. worth
299. lighthouse
300. woman
301. business
302. March
303. April
304. May
305. June
306. July
307. September
308. October
309. November
310. December
311. Monday
132. Tuesday
313. Wednesday
314. Thursday
315. Friday
316. Saturday
317. Sunday
318. pint
319. quart
320. gallon
321. peck
322. bushel
323 foot
324. yard
325. inch
326. ounce
327. pound

4A SPELLING.

By Phoebe A. Hahn.

300 WORDS A TERM; 20 WORDS A WEEK.

First Week.

1. beautiful
2. stream
3. basket
4. tired
5. replied
6. answered
7. uncle
8. daughter
9. minute
10. through
11. everything
12. direction
13. distance
14. east
15. dandelion
16. north
17. together
18. heard
19. quiet
20. people

Second Week.

1. hour
2. between
3. pause
4. against
5. noisy
6. believe
7. fields
8. heavy
9. whispered
10. meant
11. chase
12. smooth
13. rough
14. kitchen
15. sure
16. always
17. meadow
18. curious
19. strange
20. evening

Third Week.

1. surface
2. catch
3. color
4. different
5. beginning
6. pieces
7. Manhattan
8. Brooklyn
9. borough
10. above
11. princess
12. voices
13. sound
14. Richmond
15. Queens
16. Bronx
17. opened
18. descending
19. broad
20. stairs

Fourth Week.

1. laughing
2. lower
3. Newark
4. nightingale
5. sailors
6. Jamaica Bay
7. thought
8. wait
9. eleven
10. shoes
11. leather
12. polished
13. garden
14. bitterly
15. farther
16. Hudson River
17. swept
18. nineteen
19. branches
20. picture

Fifth Week.

1. notice
2. forward
3. angry
4. wooden
5. silence
6. sale
7. sunshine
8. chimney
9. mountain
10. island
11. bridges
12. Saturday
13. Ellis Island
14. gathered
15. forest
16. Liberty Island
17. cottage
18. wade
19. though
20. Governor's Is.

Sixth Week.

1. Blackwell's Island
2. coming
3. alone
4. enough
5. stopping
6. Ward's Island
7. twelve
8. Wednesday
9. thousand
10. decided
11. mouth
12. covered
13. himself
14. possible
15. would
16. warehouse
17. traveler
18. pretended
19. before
20. disguise

Seventh Week.

1. reported
2. appeared
3. whole
4. examine
5. offered
6. valley
7. shadiest
8. young
9. daisies
10. hole
11. reminded
12. imagine
13. companions
14. earth
15. frightened
16. returned
17. searched
18. running
19. money
20. heard

Eighth Week.

1. board
2. pointed
3. coined
4. remember
5. twenty
6. perfectly
7. pumpkin
8. readily
9. opposite
10. because
11. buttons
12. gentleman
13. obliged
14. servants
15. marriage
16. remained
17. question
18. breathe
19. boughs
20. tongue

Ninth Week.

1. thrown
2. fourteen
3. choice
4. suddenly
5. trouble
6. disturb
7. forgetting
8. white
9. aching
10. bread
11. frightful
12. upward
13. torrent
14. knot
15. world
16. straight
17. Central Park
18. Prospect Park
19. museum
20. picture

Tenth Week.

1. approached
2. obedience
3. clothing
4. watches
5. quarter
6. beyond
7. already
8. next
9. evening
10. friends
11. building
12. pleased
13. cheerful
14. among
15. prompt
16. army
17. wore
18. trusted
19. ordered
20. failed

Eleventh Week.

1. guilty
2. while
3. learned
4. feathers
5. since
6. gift
7. exclaimed
8. cruel
9. carrying
10. shoulder
11. polite
12. laughing
13. margin
14. danger
15. carriage
16. kettle
17. elbows
18. lying
19. hurry
20. shower

Twelfth Week.

1. thieves
2. promise
3. alone
4. meaning
5. business
6. Atlantic Ocean
7. Pacific Ocean
8. Asia
9. Europe
10. Africa
11. North America
12. South America
13. Australia
14. continent
15. Indian Ocean
16. neighbor
17. desire
18. support
19. sentences
20. fault

Thirteenth Week.

1. wire
2. belonged
3. refining
4. molasses
5. sure
6. publishing
7. birthday
8. exclaim
9. fashion
10. type
11. quality
12. followed
13. where
14. provided
15. stolen
16. allowing
17. wonderful
18. opinion
19. destroy
20. Harlem

Fourteenth Week.

1. warriors
2. window
3. youth
4. hundreds
5. setting
6. eagerly
7. pleasant
8. stopped
9. consider
10. simple
11. grief
12. company
13. settled
14. steamer
15. rather
16. subtract
17. dismiss
18. twelve
19. planning
20. foreigner

Fifteenth Week.

1. powerful
2. guest
3. separate
4. singular
5. plural
6. abbreviation
7. experience
8. clever
9. difficult
10. desired
11. profit
12. mischief
13. teacher
14. quaint
15. magazines
16. subway
17. fountain
18. neglect
19. hastened
20. cream

Sixteenth Week.

1. purchased
2. manufactures
3. refine
4. salary
5. exchange
6. doubt
7. industry
8. rejoiced
9. occupation
10. stitches
11. merchant
12. hurrying
13. behind
14. listen
15. join
16. started
17. explained
18. finish
19. shame
20. hammer

Seventeenth Week through Twentieth Week.

Review words of term.

4B SPELLING.

By Ethel J. Fyfe.

20 WORDS A WEEK.

First Week.

1. traveler
2. prepared
3. searched
4. flowers
5. terrible
6. captain
7. sword
8. soldier
9. gloomy
10. replied
11. sleeve
12. grandmother
13. ground
14. language
15. daughter
16. forest
17. country
18. thicket
19. neighbors
20. brought

Second Week.

1. moment
2. scissors
3. princess
4. throne
5. pocket
6. curious
7. neighed
8. squeezed
9. wondered
10. mountain
11. feather
12. succeed
13. purpose
14. understand
15. castle
16. caterpillar
17. clever
18. beautiful
19. tumble
20. complaining

Third Week.

1. animals
2. delighted
3. puzzled
4. handsome
5. gardener
6. business
7. meadow
8. shadows
9. journey
10. lantern
11. diamonds
12. presently
13. arrived
14. enjoyed
15. building
16. friendly
17. finished
18. darkness
19. grapevine
20. north

Fourth Week.

1. customers
2. whistle
3. imitate
4. everything
5. whispering
6. mischief
7. sentences
8. geography
9. crimson
10. written
11. forward
12. because
13. worms
14. distance
15. supper
16. answered
17. climbed
18. wicked
19. swallowed
20. lonesome

Fifth Week.

1. ceiling
2. erected
3. spiders
4. burglar
5. watched
6. blanket
7. wrapped
8. together
9. meddler
10. cradle
11. strange
12. family
13. pretended
14. notice
15. crumble
16. around
17. America
18. people
19. hammock
20. stitches

Sixth Week.

1. opened
2. oranges
3. mouth
4. solemn
5. honey
6. monkey
7. slender
8. creatures
9. beautifully
10. carefully
11. blossoms
12. lilies
13. fragrant
14. thistle
15. treasure
16. harder
17. daisy
18. feathers
19. dreary
20. Asia

Seventh Week.

1. thousand
2. mountains
3. learned
4. lesson
5. countries
6. surround
7. pausing
8. through
9. friendly
10. chimneys
11. desert
12. horseback
13. dozen
14. swiftest
15. pointed
16. promised
17. exactly
18. evening
19. picture
20. between

Eighth Week.

1. terror
2. yesterday
3. naughty
4. forehead
5. throat
6. weather
7. chickens
8. presently
9. turned
10. angry
11. remembered
12. rough
13. delicate
14. stretched
15. fingers
16. whether
17. frightened
18. enough
19. indeed
20. corner

Ninth Week.

1. moment
2. shouted
3. Chinese
4. trembles
5. braided
6. cousin
7. telegraph
8. surprised
9. wonderful
10. always
11. companion
12. palace
13. reign
14. buckets
15. adventures
16. kind-hearted
17. princess
18. puppies
19. thunder
20. pleased

Tenth Week.

1. gathered
2. squirrels
3. problem
4. pouring
5. weary
6. precious
7. diamonds
8. reached
9. splendid
10. strange
11. weaving
12. pigeons
13. explain
14. together
15. covered
16. wooden
17. brothers
18. cushion
19. needles
20. laughed

Eleventh Week.

1. happened
2. walnut
3. happily
4. carriage
5. crown
6. pieces
7. language
8. splendid
9. sunbeam
10. declining
11. ordered
12. quickly
13. gentlemen
14. weight
15. history
16. escaped
17. knee
18. knitting
19. climbed
20. grandma

Twelfth Week.

1. season
2. courage
3. property
4. poultry
5. quietly
6. entered
7. quarreling
8. enemies
9. directions
10. smothered
11. appears
12. revolution
13. sought
14. overturned
15. threatened
16. kindness
17. reward
18. sailor
19. disturbed
20. usually

Thirteenth Week.

1. inquire
2. imagine
3. returned
4. hopped
5. furiously
6. violets
7. rose bush
8. obeying
9. groaned
10. twinkling
11. instantly
12. breakfast
13. sprinkled
14. golden
15. happier
16. easily
17. driven
18. growing
19. manners
20. rabbits

Fourteenth Week.

1. amount
2. umbrella
3. engines
4. finished
5. candies
6. ragged
7. screamed
8. reminded
9. stinging
10. anxious
11. French
12. fountain
13. blacksmith
14. sledge
15. wounded
16. river
17. fought
18. captured
19. thought
20. ocean

Fifteenth Week.

1. Amazon
2. adjective
3. commerce
4. prairie
5. Plata
6. source
7. southeast
8. Brazil
9. drained
10. surface
11. waving
12. changed
13. motion
14. Indians
15. furniture
16. wigwam
17. belonging
18. mothers
19. half-grown
20. finally

Sixteenth Week.

1. Florida
2. wheat
3. Eskimo
4. lumbering
5. United States
6. inhabitants
7. West Indies
8. Equator
9. mining
10. salmon
11. larger
12. sexton
13. favorite
14. obliged
15. James
16. composition
17. lowlands
18. capital
19. plateau
20. plains

Seventeenth Week.

1. rotations
2. altitude
3. industries
4. variety
5. northern
6. region
7. branches
8. moisture
9. islands
10. Pacific
11. continent
12. division
13. hemisphere
14. composition
15. library
16. Alaska
17. zones
18. indentations
19. projections
20. Mexico

Eighteenth Week.

1. fertile
2. Frigid
3. southern
4. principal
5. vegetation
6. beaver
7. numerous
8. peninsula
9. reindeer
10. northeast
11. Mississippi
12. navigable
13. steamers
14. course
15. location
16. Yukon
17. staircase
18. caught
19. Andes
20. central

Nineteenth Week.

1. Europe
2. ghost
3. descendants
4. seaport
5. western
6. productions
7. moderate
8. navigation
9. occupations
10. famous
11. Mediterranean
12. cultivation
13. downward
14. constant
15. ruined
16. Germany
17. massive
18. England
19. decimals
20. Russia

Twentieth Week.

Review.

Drill in Primary Grades

Selections for Memorizing.

By Bronx Teachers.

A friend of the tree is a friend of the race.—*John Burroughs.*

Good nature and good sense
Must ever join;
To eer is human; to forgive, divine.
—*Pope.*

If thou art worn and hard beset
With sorrows that thou wouldn't forget,
Go to the woods. —*Longfellow.*

Habit, like a rolling stone upon a mountain top,
A child may first set off, a giant cannot stop.

Fame is what you have taken,
Character is what you give;
When to this truth you awaken,
Then you begin to live.
—*Bayard Taylor.*

Look up and not down!
Look forward and not backward,
Look out and not in!
And lend a hand!
—*Edward Everett Hale.*

Somebody did a golden deed;
Somebody proved a friend in need;
Somebody sang a beautiful song;
Somebody served the whole day long.
Was that "somebody" you?

Build a little fence of trust around to-day;
Fill the space with loving deeds and therein stay.
Look not through the sheltering bars upon to-morrow,
God will help thee bear what comes of joy or sorrow.
—*Mary Frances Butts.*

A haze on the far horizon,
The infinite tender sky,
The rich, ripe tints of the cornfield,
The wild geese circling high,
And far over upland and lowland,
The charm of the goldenrod,
Some of us call it Autumn
And others call it God.
—*M. H. Carruth.*

There isn't a blossom under our feet
But has some teaching, short and sweet,
That is richly worth the knowing,
And the roughest hedge and the sharpest thorn
Is blest with a power to guard or warn.
If we but heed its showing.
—*Phoebe Cary.*

Over in the meadow,
Where the clear pools shine,
Lived a green mother frog
And her froggies nine.
"Croak," said the mother,
"We croak," said the nine,
So they croaked and they splashed
Where the clear pools shine.
—*Olive A. Wadsworth.*

Over in the meadow,
In a nest built of sticks,
Lived a black mother crow
And her little crows six.
"Caw," said the mother,
"We caw," said the six;
So they cawed and they cawed
In their nest built of sticks.

—*Olive A. Wadsworth.*

GRASS.

Peeping, peeping, here and there,
In lawns and meadows everywhere,
Coming up to find the spring
And hear the robin red-breast sing.
Creeping under the children's feet,
Glancing at the violets sweet,
Growing into tiny bowers
For the dainty meadow flowers.
We are small, but think a minute
Of a world with no grass in it.

THE DEWDROP.

Little drops of dew,
Like a gem you are,
I believe that you
Must have been a star.
When the day is bright
On the grass you lie;
Tell me, then, at night
Are you in the sky?

—*Frank Dempster Sherman.*

OBEDIENCE.

If you're told to do a thing,
And mean to do it really;
Never let it be by halves,
Do it fully, freely.
Do not make a poor excuse,
Wasting, weak, unsteady;
All obedience worth the name,
Must be prompt and ready.

—*Phoebe Cary.*

MY COUNTRY'S BOUQUET.

Daisies white,
Violets blue,
Roses red,
Taken from my garden bed,
Make us think of flag so true,
Our own dear flag, "Red, White and Blue."

Oh, lovely little violet,
I pray you, tell me, dear,
Why you appear so early,
Ere other flowers are here.
Because I am so tiny,
In early May come I,
If I come with the others,
I fear you'd pass me by.

THE LILAC.

The sun shone warm, and the lilac said,
"I must hurry and get my table spread;
For I'm slow, and dinner late,
My friends, the bees, will have to wait."
So delicate lavender glass she brought,
And the daintiest china ever bought,
Purple-tinted, and all complete;
And she filled each cup with honey sweet.

—*Clara D. Bates.*

BUTTERCUP.

Where do the buttercups get their gold?
Each cup is as full as it can hold.
Do the stars, I wonder, drop down in the night,
And come up in the morning in blossoms bright?
Or, does some sunbeam slip, as it passes,
Into a tangle of meadow-grasses
And stray out again in bloom manifold?
Oh! where do the buttercups get their gold?

THE BOY AND THE BIRD.

Who taught you to sing,
My sweet, pretty bird?
Who tuned your melodious throat?
You make all the hills and valleys to ring;

You bring the first news of the earliest
spring,
With your loud and silvery note.

"It was God," said the lark,
As he rose from the earth;
He gives us the good we enjoy,
He painted our wings; He gave us our
voice,
He gives us our food and bids us re-
joice,
"Good-morning, my beautiful boy."

Tiny little snowflakes
In the air so high,
Are you little angels
Floating in the sky?
Whirling on the sidewalk,
Dancing in the street,
Kissing all the faces
Of the children sweet
Loading all the housetops,
Powdering all the trees,
Cunning little snowflakes,
Little busy bees.

—*Lucy Larcom.*

A SONG.

If you feel like sighing, sing,
Never mind the tune;
Let your voice rise on the breeze
Like a lark in June.
Singing brightens long, dull tasks,
Cuts the days in two
Makes a mock of foolish fears,
Turns dark skies to blue.
Here's a truth, O laddie mine,
Lips set to a song
Never mind a way to whine
All the whole day long.
So, instead of sighing, sing,
Never mind the tune—
And you'll find December skies
Bright as those of June.

—*Florence Jones Hadley.*

THE LITTLE ARTIST.

Oh, there is a little artist
Who paints in the cold night hours
Pictures of wee, wee children,
Of wondrous trees and flowers.
Pictures of snow-capped mountains
Touching the snow-white sky,
Pictures of distant oceans
Where pigmy ships sail by.
Pictures of rushing rivers
By fairy bridges spanned;
Bits of beautiful landscapes,
Copied from elfin land.
The moon is the lamp he paints by,
His canvas the window-pane,
His brush is a frozen snow-flake,
Jack Frost is the artist's name.

Drill in Primary Grades

PHONICS.

By an Assistant to Principal, Brooklyn.

The diacritical marks are not given here on account of the different systems of marking.

EXERCISES FOR SECOND AND THIRD YEARS.

VOWELS.

A.

1. a as in fate.
2. a as in fat
3. a as in arm.
4. a as in all.
5. a as in air.
6. a as in ask.
7. a as in what.

E.

8. e as in me.
9. e as in met.
10. e as in her.
11. e as in they.
12. e as in there. (like a in care.)

I.

13. i as in ice.
14. i as in ill.
15. i as in machine.
16. i as in bird.

O.

17. o as in old.
18. o as in on.
19. o as in other. (like short u.)
20. o as in woman. (like short oo.)
21. o as in move. (like long oo.)
22. o as in form. (like broad a.)

U.

23. u as in use.
24. u as in up.
25. u as in urge.
26. u as in full.

OO.

27. oo as in moon.
28. oo as in foot.

OI.

29. oi or oy as in oil, boy.
30. ou or ow as in out, owl.

CONSONANTS: SUB-VOCALS.

1. b as in bad.
2. d as in did.
3. g as in go.
4. g as in gem.
5. j as in jog.
6. l as in lull.
7. m as in man.
8. n as in no, noon.
9. ng as in ring.
10. r (trilled) as in roar.
11. r (smooth) as in form.

CONSONANTS: ASPIRATES.

(HARD BREATHS)

12. c as in ice.
13. c as in can.
14. f as in fife.
15. h as in hat.
16. k as in kill.
17. p as in pipe.
18. s as in sun.
19. t as in tent.
20. ch as in church.
21. sh as in shall.
22. th as in thin.
23. wh as in when.
24. v as in van.
25. w as in will.

26. y as in yes.
27. z as in zeal.
28. zh as in azure.
29. th as in this.

EXERCISES IN VOWEL SOUNDS.

1. a as in fate, ale.

pay, may, fame, they, obey, danger, break.

It may be my fate to win both fame and blame.

In vain to weigh his words.

2. a as in arm, far.

ah, are, arm, calm, half, laugh, haunt, hearth.

Here it comes sparkling, and there it lies darkling.

To arms! to arms! Charge, Chester, charge!

3. a as in all, fall.

awe, aught, fault, alway, lawyer, saucer, important.

He paused by the tall tree, as he saw the lawyer walking toward him.

(Avoid saying sor for saw; lor for law.)

4. a as in and, fat.

at, and, mat, man, hand, began, attack, whack.

The bat was on the mat, and the fat was in the pan.

The madman stood on the jag of a mountain crag.

5. a as in air, care.

dare, bear, there, fair, heir, their, careful.

Oh, rare and happy pair! May you bear each other's joys and cares!

Forbear; her fairy fairness will ensnare.

6. a as in ask, fast.

dance, chance, glass, past, mast, grass.

The slanting sun glanced on a merry, dancing group.

Faster and faster it comes on the blast.

7. e as in eat, mete.

leap, deep, here, leaf, theme, teeth, belief.

The dreamy, sleepy weaver caught a weasel in a beaker and a beetle in his sleeve.

8. e as in end, met.

egg, any, merry, said, deaf, theft, yes, yet.

He bled as he sped, and fled as he bled.

Uprouse ye, then, my merry, merry men.

9. e as in her; i as in girl; y as in myrrh.

err, were, earth, bird, first, mirth, myrtle.

Stern were the features of his earnest face.

Thou sure and firm set earth.

10. i as in ice, pine.

pine, fire, kite, like, eyes, aisle, guide.

The guide could find no sign of the mine.

For life, for life, their flight they ply.

11. i as in ill, pin.

in, been, hymn, build, busy, pretty.

The skittish, trickish, skilful, wilful, pretty little kitten.

What a din to bring him in.

12. o as in owe, note.

oak, broke, foe, sew, pour, door, soldier.

Roll on, thou deep and dark blue ocean, roll.

The stones are cold; no warmth and no light, oh woe is me!

13. o as in on, not.

odd, dog, off, cough, dot, watch, hostage.

The swan is in the pond, the wasp in the watch, and the lodger in the lodging.

14. o as in move, and oo as in ooze,

move, moon, soon, rule, route, grew, fruit.

As I do live by food, I met a fool, a motley fool.

A brutal, cruel cooper went to ruin.

15. u as in use, mute.

muse, due, few, duty, Jew, tube, Tuesday.

How pure the air in June, how sweet the birds in tune!

Fair the views, and soft the sunset hue.

16. u as in up, tub.

tub, but, thus, done, nothing, wonder.

A drum, a drum! Macbeth doth come.

The love of the dove for its mate is a touching sight.

17. u as in full; and oo as in look.

pull, push, put, book, should, hood, could.

Pull me a bush full of good berries.

The good woman stood to look at the wolf.

18. oi as in oil, boil.

soil, voice, hoist, noise, boy, choice, avoid.

Rejoice, still cried the crowd, rejoice.

Boil the oil in the boiler.

19. ou as in out; and ow as in cow.

our, ounce, mouth, bound, flour, town, doubt.

Proudly plough the ground. Never doubt.

Now see the cloud upon the mountain top.

EXERCISES IN CONSONANT SOUNDS.

1. *b.*

brave, bride, bower, barb, bulb, rob, fable.

The bear broke away, and rushed through the bushes and the barren wild.

2. *d.*

did, duty, done, dreaded, strand, land.

On a dark day, the sky is dim.

3. *f.*

fife, fill, full, often, fifth, off, laugh.

Five fishermen fill their nets with finny fish.

4. *g.* (hard)

gag, giggle, gay, glow, guide, egg.

Go, get thee gone, gay hunter, with thy gun.

5. *h.*

how, home, hill, high, here, hoist.

Up a high hill he heaved a huge round stone.

6. *j and g.* (soft)

joy, jug, gill, gem, judge, oblige.

Judge and jury jogging on a journey joined a joker.

7. *l.*

lull, mill, limp, learn, boil, soil.

Lamely the lion limped along the lawn.

8. *m.*

man, main, moment, murmur, march.

Many men of many minds were mixing in matters of much moment.

9. *n.*

now, noon, nine, none, nonsense.

None know or need to know his name..

10. *p.*

pipe, picked, peace, prop, pepper.

Peter Prangle, the pear-picker, picked three pecks of prickly pears from the pear trees.

11. *r.*

roar, rear, rumor, storm, return, march.

Round the rugged rock the ragged rascal ran.

12. *s.*

sense, since, saw, assists, incense, source.

Such sighs are incense from a heart sincere.

13. *sh.*

shine, shall, shell, shrink, rush.

She uttered a sharp, shrill shriek.

14. *t.*

tent, time, tune, light, taught, testament.

We take no note of time but from its loss.

15. *th.*

thick, think, thin, thirtieth, length, width.

Learn to throw the breath through the throat.

Through thick and thin the thief still ran.

This width of carpet fits these rooms.

16. *th.*

breathe, bathe, there, these, thine, thither, their.

There the blithe bathers bathed.

17. *v.*

vine, vote, velvet. vivid, receive, give.

Who giveth his love, giveth his life.

18. *w.*

will, woe, wet, wood, weather.

We wildly wish, while wiser workmen win their will.

19. *wh.*

when, where, why, what, wheat, wheel.

What white wheat, and where?

20. *y.*

yes, yet, year, young, yesterday.

Yes; young yet older yesterday.

21. *z.*

zone, buzz, breeze, ooze, lose, is, scissors.

The buzz of the bees among the trees.

22. *zh.*

azure, pleasure, measure, treasure, vision.

The azure sky is the vision's treasure.

23. *k.*

kill, kite, kick, look, came, caught, chasm.

They caught the kite near the chasm.

TERMINAL SOUNDS.

ED, D, T, ST, ING, TH.

1. *ed* and *d.*

live, lived; love, loved; walk, walked; pick, picked; pull, pulled; thank, thanked.

bad, had, lad, sad, etc.

2. *t.*

hot, dot, got, get, lot, not, hat, cat, mat, fat, etc.

3. *st.*

against, amidst, whilst, last, lasts; blast, blasts; post, posts; fist, fists; ghost, ghosts; insist. insists; trust, trusts; thrust, thrusts, etc.

4. *ing.*

singing, darning, coming, mending, going, dancing.

5. *th.*

fourth, fifth, sixth, seventh, eighth, with, width, beneath, length, depth.

Sound of aw.

My sister is fond of drawing. She draws very well. We have two of her pictures framed. One is a drawing of our house. The other is a drawing of our little brother.

He is only six. He says he is going to study law. Edith drew him with a big pile of books marked Law under his arm.

Sound of th.

Theodore's mother said, "You must not play in the snow. It will make your cold worse."

After three, Theodore saw some boys throwing snowballs. He thought they were doing wrong; but he stopped to watch them. A boy threw a snowball at him. Theodore threw one back. Then he joined the boys and threw snowballs for an hour.

This morning Theodore has a sore throat.

Sound of g.

Jennie said, "Which do you like best, Sarah, reading, writing or drawing?"

"I think I like reading," said Sarah, "but I like singing very much, too."

"I like playing," said Jennie's little sister.

"Do you mean playing the piano?" asked Jennie.

"No," said the little one, "I mean just playing."

Phonics for Fourth Year

VOWELS.

A.

1. a long as in ace, face.
2. a short as in at, hat.
3. a Italian as in art, arm.
4. a broad as in all, ball.
5. a as in air, care.
6. a as in ask, last.
7. a like o as in what, wan, was.

E.

8. e long as in eve, me.
9. e short as in end, met.
10. e like a as in their, heir.
11. e as in ermine, verge.
12. e like a as in eight, obey.

I.

13. i long as in ice, fine.
14. i short as in ill, pin.
15. i as in bird, virgin, irksome.
16. i like e as in pique, machine.
17. y long like i as in fly, sky.
18. y short like i as in nymph, hymn.

O.

19. o long as in old, no, note.
20. o short as in on, odd, God.
21. o like u as in son, dove, other.
22. o like oo as in do, move, prove,
23. o like oo as in wolf, woman.
24. o like broad a as in order, form.

OO.

25. oo as in moon, food, noon.
26. oo short as in good, book, wool.

U.

27. u long as in use, tube, tune.
28. u short as in us, tub, up.
29. u as in urge, burn.
30. u long proceeded by r as in rude, rule.
31. u like oo as in put, bull, push.

Y.

32. y is either a vowel as any, etc; or a consonant as ye, etc.

Regular Diphthongs.

33. oi or oy, same sound unmarked as in oil, oyster.
34. ou or ow, same sound as in out, owl.

CONSONANTS.

1. c hard like k as in call, cat, can.
2. c soft like s as in cede, cent, mercy,
3. ch unmarked as in child, touch, much.
4. ch hard like k as in chorus, echo, epoch.
5. ch soft like sh as in chaise, machine.
6. g hard as in get, game.
7. g soft like j as in gem, engine, ginger.
8. s sharp unmarked as in same, so, gas.
9. s soft or vocal like z as in has, is, prison.
10. th unmarked (whispered) as in think, path, truth.
11. th vocal as in that, thine, them.
12. ng unmarked as in long, singer, tongue, rang.
13. n with horizontal line under, like ng as in ink, anger, lank.
14. x like gz as in example, exact.
15. x like ks as in exercise.
16. ph like f unmarked as in phonics, seraphic, sylph.

17. qu like kw as in queen, quart, quality.

18. wh like hw unmarked as in what, white, while.

19. zh as in vision, measure, treasure.

PRACTICE WORK.

CONSONANTS CLASSIFIED.

Aspirates—Breath.

1. h hash hiss
2. h home high
3. wh white whisper
4. wh when whale
5. p pin pun
6. p pole push
7. c cash coat
8. k kind Kate
9. ch chap choose
10. ch chase cheer
11. f fast fishy
12. f face fine
13. s sink sent
14. s signal seal
15. t tin tint
16. t tick tell
17. th thick thistle
18. th think thigh
19. sh shine sheriff
20. sh shame shell
21. th thirty thirsty
22. sh hush blush
23. ch cherry cheese

Sub-vocals. Tone with Breath.

1. l lash list
2. l late lie
3. w wit wisp
4. w wen wail
5. b bin bun
6. b bowl bush
7. g gash goat
8. g gill gate
9. j jam June
10. j jet July
11. v vast vale
12. v vase vine
13. z zinc zest
14. z zigzag zeal
15. d din dint
16. d Dick dell
17. th them soothe
18. th then smooth
19. zh azure treasure
20. zh pleasure measure
21. th mother father
22. zh grazier glazier
23. j judge January

PRACTICE WORK

CONSONANTS DIVIDED ACCORDING TO THE ORGANS USED.

Palate or Throat Sounds.

1. c-k came card cape cold
2. g game guard gape gold
3. y yard yacht yoke yonder

Nasal or Nose Sounds

4. n navy nephew ninety November.
5. ng sing sang singer singing
6. n kink pink finger ink

Lingual or Tongue Sounds.

7. l lake leap light locket lusty
8. r rake reap right rocket rusty

Dental or Teeth Sounds.

9. t tame tent time toe trunk
10. d dame dent dime doe drunk
11. ch char chest chill choke chunk
12. j jar jest Jill joke junk
13. th thatch three thin throat south.
14. th that thee thine those thou
15. s base seal hiss sink dose
16. z baize zeal fizz zinc doze
17. sh ash fresh shaver shame show.
18. zh azure treasure glazier brazier hosier

Labial or Lip Sounds.

19. p pack peg pile pony pug
20. b back beg bile bony bug
21. f fail ferry fine fowl fern
22. v vale very vine vow verge
23. m May men mill mow morn
24. w way wen will woe worn

SUMMARY.

Palate Sounds.

Letter k
c hard
g hard
y

Nasal Sounds.

Letter n
ng
n like ng

Lingual Sounds.

Letter l
r

Labial Sounds.

Letter p
b
f
v
m
w

Dental Sounds.

Letter t
d
ch
j
g soft
s
c soft
z
sh
zh
th aspirate
th vocal

Aspirate.

h

PRACTICE WORK, SET I.

Vowel Sounds.

1. a at ankle candy apple attic
2. a ate apron baker paper April
3. e egg edge entry net west
4. e eel eagle hero neat east
5. i imp inch silk infant idiot
6. i ice high time iron tiger
7. o odd God office coffee chop
8. o old glory home poet story
9. u. us tub usher tumbler umpire
10. u use tube unit tulip June
11. y like i short
12. y like i short
13. y hymn nymph lily every monkey
14. y my fly reply rely July
15. a arm half march army park
16. a ask past class glass master
17. a all ball waltz water August
18. a was watch wash wan wander
19. a air pair hair fare care
20. e where there heir heiress their
21. er err her verse person perch
22. ir firm sir girl bird first
23. ur fur furl purse purple church

PRACTICE WORK, SET II.

1. ai like a mail sail pail hail gait paint
2. a male sale pale hale gate cage
3. ea like e beat heal dear hear peal speak
4. e beet heel deer here peel cheek
5. e like a they eight eighteen eighty sleigh skein
6. ie like i pie flies cries skies spies dried
7. ie like e grief brief thief chief thieve lief
8. ea like e deaf death dead wealth health breath
9. ight like it light might right sight tight plight
10. oa like o soap road boat goat coat load
11. ow like o elbow yellow willow grow know snow
12. oi oil boil point moist coil voice
13. oy boy toy coy joy enjoy oyster
14. ou out ounce loud proud mouse trout

15. ow owl gown town towel vowel flower

w is silent.

16. whoop who
17. whole whom
18. whose wholesome

s marked thus ṣ has the sound of z.

19. has nose rise prose muse
20. phrase rose wise prison amuse

tch like sound of ch.

21. catch patch batch crutch watch match

PRACTICE WORK, SET III.

1. oo good wool wood book look brook
2. oo moon noon boot spool spoon food
3. o like oo woman wolf wolves wolfish
4. o, o like a cork corn cook force fork horse
5. u like oo rude rule rural rumor truth fruit
6. u like oo full pull push pushing bushel bush
7. ex like ks ex like gz
8. ex vex exit ex exact exhaust
9. ex extra express ex example examine

qu like kw.

10. q quack queen queer
11. q quite quote quail
12. ed like d aimed pleased filled feared
13. ed like t kissed danced dropped wished
14. ed like ed minded banded crowded guided

wh.

15. whit whistle whisper white
16. when whittle whirpool while
17. whip whimper whisker what

PRACTICE WORK, SET IV.

Simple sound of ng.

ang rang slang bang banging
ing king fling sting singing
ong song strong wrong wronging
ung sung flung swung
ng sing-er spring-er sting-er ring-er
ng sing-ing spring-ing sting-ing ring-ing

n like ng before the sound of k or hard g.

n fin-ger lon-ger jin-gle hun-ger
finger longer jingle hunger
n lin-ger stron-ger tin-gle an-gle
linger stronger tingle angle

n like ng followed by k as pirate sound.

n like ng ink wink pink link prink
n like ng kink mink drink sink shrink

n followed by g soft in these words.

stin-gy gin-ger singed plun-ger
stingy ginger singe plunge

Practice with wh.

wh wh wh wh
what when whip whale
whack whether which whim
what-ev-er whence whiff whist

Practice with ing.

1. advancing 2. delaying 3. giggling
beating ending hanging
clapping finding icing
4. jumping 5. mending 6. pushing
kindling needing quenching
longing opening ushering
7. ringing 8. usurping 9. examining
swinging visiting yachting
tingling washing zigzagging

Practice with ch.

ch ch ch ch ch
chap check chick chop chum
chaff chest chick-en choose chuck
chance chess chip chocolate chunk
ch ch ch ch
chord chorus choral chorister

Practice with th final.

strength width length breadth health

PRACTICE WORK, SET V.

Homonyms.

beet	blew	bow	bury	bear	cite
beat	blue	bear	berry	bare	site
				bear	sight
cede	clause	chord	climb	coarse	cent
seed	claws	cord	clime	course	sent
					scent
dear	due	draft	flower	flee	fair
deer	dew	draught	flour	flea	fare
ring	rite	blue	tear	rale	hare
wring	write	blew	tier	rail	hair
bow	bread	ceil	course	cell	ball
bough	bred	seal	coarse	sell	bawl

PRACTICE WORK, SET VI.

Singular and Plural Words.

calf	man	foot	tooth	half
calves	men	feet	teeth	halves
life	knife	wife	chief	gulf
lives	knives	wives	chiefs	gulfs
leaf	loaf	thief	safe	proof
leaves	loaves	thieves	safes	proofs
sheaf	mouse	goose	woman	city
sheaves	mice	geese	women	cities
wharf	shelf	half	fly	cry
wharves	shelves	halves	flies	cries

PRACTICE WORK, SET VII.

Short but frequent drills on the following tables will be found very useful in giving clear and distinct enunciation.

Long Simple Vowel Sounds.

1. e as in even, recent, era, me, he, scene, real, reap.

2. a as in mate. fate, pate, ate, ale, take, lake, fade.

3. a as in ask, last, vast, staff, shaft, past, mast, graft.

4. a as in arm, tar, far, calm, palm, salve, halve, alms.

5. u as in urn, burn, cur, furl, churn, turn, fur, burst.

6. a as in all, talk, salt, call, ball, hall, malt, walk, small.

7. o as in note, old, go, spoke, no, pole, vote, roll, smoke.

8. oo as in moon, loose, tooth, smooth, rood, food, coon.

Short Simple Vowel Sounds.

9. i as in it, spill, grip, pit, mit, fit, tick, lit, in, ring.

10. e as in met, wet, pet, let, get, set, red, shed, jet, fret.

11. a as in at, mat, fat, sat, gat, rat, bat, had, rap, lap.

12. o as in not, got, lot, shot, trot, hot, odd, rock, shock.

13. u as in but, nut, shut, rut, hum, tun, much, thump.

14. o as in cross, loss, toss, moss, gone, trough, cough, wroth.

15. o as in obey, opinion, oblige, omit, opine.

16. oo as in foot, good, book, cook, took, wood, hood, nook.

Partial Consonants.

17. w as in wet, wink, new, few, wit, wall, wilt, work, word.

18. y as in yes, yawn, yard, yoke, you, yell, youth, yard.

19. wh as in why, when, what, which, whirl, whip, white.

20. h as in heat, hate, hast, had, hurt, hall, hat, hen, hit, hot, hut, horn, wholly, hood.

21. l as in let, like, tell, fell, jelly, lily, pull, shall, loose.

22. r as in ran, road, far, mar, river, fire, spirit, ore, merit.

23. f as in fife, fun, loaf, chief, differ, staff, foil, fix, lift.

24. s as in see, sip, yes, hats, sifts, massy, less, spine, us.

25. sh as in shine, shop, hush, flesh, hasheesh, dish, cash, shelf.

26. th as in thin, thick, pith, path, thorn, oath, thump, cloth.

27. v as in vain, voice, rave, love, vote, civil, view, void.

28. z as in zone, zeal, graze, maze, dizzy, zest, zero, zinc.

29. zh represented in azure, grazier, measure, pleasure, treasure, hoosier, glazier, seizure.

30. th as in thou, this, with, other, father, then, thine, these.

31. ch (—tsh or nearly) as in chill, child, rich, niche, chime.

32. x (—ks) as in tax, ox, expect, text, box, expert, expense.

33. x (—ksh) as in anxious, luxury, reflexion, noxious.

34. j (—dzh, or nearly) as in jam, jar, just, jet, jaw, jest.

35. x (—gz) as in exist, example, exert, exalt, exhort.

PRACTICE WORK, SET VIII.

Make combinations by using each consonant before and after each of the long vowels. Exercise slowly and distinctly, then rapidly and distinctly.

EXERCISES FOR DRILL ON SOUNDS.

1. Be boys, but be not bad boys.

2. Bravely and blamelessly, before the band of brothers, he bore the bright blue banner blazoned with stars.

3. "Come, countrymen, conquer the coming cohorts, or die doing deeds of dreadful daring."

4. Fast flew the fiend, feeding the fiery flames flashing fearfully forth.

5. The great giant gazed gloomily on the glassy glacier, his haughty head high and his hands held heavenward.

6. How had he hired a horse?

7. King Cole kicked kettles and kites.

8. Low lies the lily lingering in the lane.

9. Man, master, maid, made mad by many mishaps, moved much more mechanically mid mud and mire.

10. No, not, none, neat, are not nouns.

11. Only on other oceans Ossian oftimes ordered obnoxious offerings.

12. Put Peter Pepper's prickly pears in pots and pans.

13. Quite queer and quaint is the queen.

14. Round the rude rock the rugged rascal ran, singing soft, sad, sobbing sounds.

15. To teach tom-tit to talk.

16. Vineyards veil vales with vines.

17. We want wide ways well wet.

18. Zounds, zealous zouave!

19. His small eyes seemed drowned in his tears.

20. Friends, Romans, countrymen, lend me your ears.

21. With all his care,
His two small legs
Could scarcely bear
The weight of two small eggs.

22. Her heir smooths her hair, but tries to conceal his acts.

23. She wished him to row her over in her uncle's old boat.

24. Washington was skilled in war.

25. Who can know the height, depth, length, width, breadth of eternity?

26. In a unit there are three thirds, four fourths, five fifths, six sixths, seven sevenths, eight eighths, nine ninths, ten tenths, eleven elevenths, or twelve twelfths.

27. The beasts straggled through the thickest forests.

28. See this, mother! It is our chain. Its links are over our own arms.

29. That lasts till night.

30. That last still night.

31. Fight on, thou brave, true heart, and falter not, through dark fortune and through bright.

32. Ye are brave, O warriors! Ye are tempests in war. Ye are like storms, which meet the rocks without fear, and overturn the woods.

33. To improve the golden moment of opportunity, and catch the good that is within our reach is the great art of life.

34. He who speaks honestly cares not, needs not care, though his words be preserved to remotest time.

35. What sculpture is to a block of marble, education is to a human soul.

36. Memory presides over the Past; Action presides over the Present. The first lives in a rich temple, hung with glorious trophies, and lined with tombs; the other has no shrine but Duty, and it walks the earth like a spirit!

37.

But who the melodies of morn can tell?
The wild brook, babbling down the mountan's side;
The lowing herd; the sheepfold's simple bell;
The pipe of early shepherd, dim descried
In the lone valley; echoing far and wide
The clamorous horn along the cliffs above;
The hollow murmur of the ocean-tide;
The hum of bees, the linnet's lay of love.
And the full choir that wakes the universal grove.

38. Tho' liv'st—liv'st did I say? Appear'st in the Senate.

39. He twists the texts to suit the several sects.

40. He stumbled'st on amidst the mists.

41.

When a twister, a twisting, will twist twist him a twist,
For twisting his twist he three twines doth untwist;
But if one of the twines of the twist doth untwist,
The twine that untwisteth, untwisteth the twist.

42. The sound of horses' hoofs were heard in the distance.

43. How sweetly slow the liquid lays
In holy hallelujahs rose.

44. I seek thy bags of gold and gifts no more.
I love the groves where God's fir temples are.

45. Up a high hill he heaved a huge round stone.

SUGGESTION.

Drills can be given from charts containing

1. Words commonly mispronounced.

2. Words difficult for children to pronounce.

3. Words having similar initial letters; as, blind, bless, blue.

4. Words having silent initial letters; as, gnaw, knit, psalm.

5. Words having similar final syllables; as, laughing, shouting.

Drill in Phonics for Grammar Grades

COMMON FAULTS IN ARTICULATION.

These exercises are intended to help overcome the substitution of sounds and the suppression of sounds.

1. wus for was.
2. fat'l for fatal.
3. criticul for critical.
4. capit'l for capital.
5. instunt for instant.
6. silunt for silent.
7. forust for for-est.
8. b'lief for be-lief.
9. d'rect for di-rect.
10. van'ty for van-i-ty.
11. moun-tins for moun-tains.
12. peril-less for perilous.
13. his-tory for his-to-ry.
14. g'og-erphy for ge-og-ra-phy.
15. cer-tin for cer-tain.
16. fount-in for foun-tain.
17. er-rer for er-ror.

Blending of Words.

The termination of one word should not be blended with the beginning of another; as, "His small lies" for "His small eyes."

1. On either side an ocean exists. On neither side a notion exists.

2. That last still night. That lasts till night.

3. R'pe peach; babe babbles; weep bitterly; rob people; deaf folly; twelve vines; brief view; live fish; hot tea; good day; wet day; red tape; fresh sugar; seventh theme; with thee; both those; breathe thickly; false sense; prize zebra; false zeal; breathes softly; black cake; big girl; silk gown; league club; such children; huge giant; rich judge; bridge chain; calm morn; clear rill; pale lily; none near.

4. Fife and steed, and trump, and drum.

5. One and two, and three, and four.

6. Old dame Monk can not teach children needful lessons.

7. Lowest streams, modest stillness, and chaste stars.

8. Spend time in good duties and treasure in good deeds.

9. Time is so swift of foot that none can overtake it.

10. Trust not too far, and mistrust not too fast.

11. A little leaven leaveneth the whole lump.

Enunciation Drill: Parasitic r.

1. A drawing lesson, not A drawring lesson.

2. The law of the land, not The lawrof the land.

3. Dry and hard, not Dryrand hard.

4. Papa and I, not Paparand I.

5. Cold slaw in vinegar, not cold slawin vinegar.

"Caw again! Caw again!" not "Cawragain! Cawragain!"

"Caw again!" said the crow and the dog. not "Cawragain!" said the crowrand the doy.

We saw a dog in Panama on a raft, not We sawra dog in Panama on a raft.

Words Commonly Mispronounced.

with — what
beneath — newspaper
often — oil
the and a before vowel — and
the and a before consonant — land
again
toward

Difficult Combinations of Consonants.

1. k, s, th—sixth.
   Henry the sixth sends thee a welcome.
2. Ng, th, s—lengths.
   We never see the lengths we run.
3. Ng, k, t, s—precincts.
   He has found the warm precincts of a cheerful home.

General Exercises in Articulation.

1. In Africa are vast wastes and deserts. (Not waste sand deserts.)

2. How do you like this sport? (Not this port.)

3. Goodness centers in the heart. (Not goodness enters.)

4. They boasted of a luxurious soil. (Not luxurious oil.)

5. I cannot believe that such a notion ever existed. (Not such an ocean.)

6. He would like to obtain either one or the other. (Not obtain neither one nor the other.)

7. I caught him taking a nap under an apple-tree. (Not an ap under a napple-tree.)

8. He sent me the same arrow that I left in the garden. (Not same marrow.)

9. This is the same eel John took from the brook. (Not same meal.)

10. He stood forth, bound hand and foot. (Not boun'han' an' foot.)

11. He went to his closet evening and morning and at noon. (Not evenin' an' mornin' an at noon.)

12. Thou hast ten thousand foes to fight. (Not has', thousan', etc.)

13. All manner of beasts and creeping things were found there. (Not o' beas' an' creepin,' etc.)

14. Can there be an aim more lofty?

15. Can there be a name more lofty?

16. Whoever heard of such a notion?

17. Whoever heard of such an ocean?

18. I saw the Prince without emotion.

19. I saw the prints without emotion.

20. I saw her rise over the pier.

21. I saw her eyes over the pier.

22. He could pay nobody.

23. He could pain nobody.

24. The cricket kept creeping across the crevices. (Not kep' creepin', etc.)

25.

Where the whitest lilies blow,
Where the freshest berries grow,
Where the ground-nut trails its vine,
Where the wood-grape's clusters shine.

26.

Amidst the wildest fiercest blasts
He thrusts his fists against the posts,
And still insists he sees the ghosts.

27.

Perchance the bald old eagle,
  On gray Beth-peor's height,
Out of his rocky eyrie,
  Looked on the wondrous sight;
Perchance the lion, stalking,
  Still shuns that hallowed spot;
For beast and bird have seen and heard
  That which man knoweth not.

28.

I love my country's pine-clad hills,
Her thousand bright and gushing rills,
  Her sunshine and her storms;
Her rough and rugged rocks that rear
Their hoary heads high in the air,
  In wild fantastic forms.

29.

When Ajax strives some rock's vast weight to throw,
The line, too, labors, and the words move slow.

30. Round the rough rocks the ragged rascal ran.

31. The hidden ocean showed itself anew,
And barren wastes still stole upon the view.

32. Wagg'st thou thy tongue at me?

33. Peter Prangle, the prickly prangly pear-picker, picked three pecks of prickly pears from the prangly pear-trees on the pleasant prairies.

34. A big black bull-dog bit a big black bull.

35. The icy, shiny, glassy glaciers gleamed in the glowing light.

36.

What wak'st thou, Spring? Sweet voices in the woods,
And reed-like echoes that have long been mute,
Thou bring'st back, to fill the solitudes,
The lark's clear pipe, the cuckoo's viewless flute,
Whose tune seems breathing mournfulness or glee,
Even as our hearts may be.

37. Theophilus Thistle, the successful thistle-sifter, in sifting a seive full of unsifted thistles, thrust three thousand thistles through the thick of his thumb; now, if Theophilus Thistle, the successful thistle-sifter, in sifting a seive full of unsifted thistles, thrust three thousand thistles through the thick of his thumb, see that thou, in sifting a seive full of unsifted thistles, thrust not three thousand thistles through the thick of thy thumb. Success to the successful thistle-sifter.

38.

When a twister, a-twisting, will twist him a twist,
For twisting his twist, he three twines doth untwist;
But if one of the twines of the twist do untwist,
The twine that untwisted untwisteth the twist.

Term Plans for Sixth Year

6B GRADE WORK.

By Principal and Teachers, P. S. 150, Brooklyn.

LYDIA A. MILLER, PRINCIPAL EDITH M. MATTHEWS RUTH TILLY MARY T. CROWLEY

NOTE.—The work for 5A, 5B and 6A was given in full in the March number of McEvoy Magazine, Vol. IV, No. 3.

6B ARITHMETIC.

By Edith M. Matthews.

I. PERCENTAGE.

1. Profit and Loss.
2. Commercial Discount (direct case).
3. Commission (direct case).
4. Taxes.
5. Duties.
6. Insurance.

II. BILLS.

III. MEASUREMENTS.

1. Potatoes, wheat. oats, etc., by weight (without memorizing).

2. Gallons of water by weight, memorizing 1 cu. ft. of water weighs 62½ lbs.

(From Syllabus).

IV. PROBLEMS.

1. Practical; i. e., feet and rods for measuring fields, acres for measuring farm, inches and yards for measuring fabrics.

2. Involved processes avoided.

3. Solved by analysis.

V. REVIEW WORK OF PRECEDING GRADES.

1. Contents of bins in bushels.

2. Contents of vessels in gallons.

3. Surfaces of rectangular solids.

4. Areas of parallelograms and triangles, base and altitude given.

PLAN WORK, 4 WEEKS OR 20 DAYS TO THE MONTH.

(a) 2nd and 4th Fridays: test in problem work of the grade.

(b) 1st Friday of month: time devoted to a drill on abstract work or review work.

(c) 3rd Friday of month: test in abstract work, or review work, or making bills.

NOTES.

1. In order to produce efficiency in abstract work, or review work, or both with the regular problem work of the grade for home work.

2. Impress pupils with the fact that the special work of the grade is percentage. Much work employing some per cent will be done.

FIRST MONTH.

SUBJECT.

1. Percentage.
   Profit and Loss (direct case).
2. Contents.
   Bushles in bins.
3. Business Forms.
   Checks and Endorsements.
4. Measurements.
   Areas of rectangles.
   1. Number sq. ft. in. in surface of kindergarten table 2 ft. by 6 ft.
   3. Silk cord for cushion that is 20 in. square.

First Week.

AIM. To teach how to find the gain or loss in $, given the cost and the rate % of the gain or loss.

PREPARATION.

1. Review aliquot parts, keeping in mind the parts equal to more than a whole 4/3=133 1/3%.

2. Review writing decimal equivalents of the business fractions.

Hence develop scheme.

Fraction	*Per cent* (%) (Spoken and written)	*Decimal* (Used)
1/2	50%	.50
2/2	100%	1.00
3/2	150%	1.50
1/3	33 1/3%	.33 1/3
2/3	66 2/3%	.66 2/3
3/3	100%	1.00
4/3	133 1/3%	1.33 1/3
1/4	25%	.25
2/4 (1/2)	50%	.50
3/4	75%	.75
4/4	100%	1.00
5/4	125%	1.25
1/5	20%	.20
2/5	40%	.40
3/5	60%	.60
4/5	80%	.80
5/5	100%	1.00
6/5	120%	1.20
1/6	16 2/3%	.16 2/3
2/6 (1/3)	33 1/3%	.33 1/3
3/6 (1/2)	50%	.50
4/6 (2/3)	66 2/3%	.66 2/3
5/6	83 1/3%	.83 1/3
6/6	100%	1.00
7/6	116 2/3%	1.16 2/3
1/7	14 2/7%	.14 2/7
2/7	28 1/7%	.28 4/7
7/7	100%	1.00
8/7	114 2/7%	1.14 2/7
1/8	12 1/2%	.12 1/2
2/8 (1/4)	25%	.25
3/8	37 1/2%	.37 1/2
4/8 (1/2)	50%	.50
5/8	62 1/2%	.62 1/2
6/8 (3/4)	75%	.75
7/8	87 1/2%	.87 1/2
8/8	100%	1.00
9/8 &c.	112 1/2 %	1.12 1/2
1/10	10%	.10
3/10	30%	.30
11/10 &c.	110%	1.10
11/10	110%	1.10
1/12	8 1/3%	.08 1/3
2/12 (1/6)	16 2/3%	.16 2/3

Note—The last one is rarely used.

Pupils observe from table

1. that 100% is repeated several times.

2. That 2/2, 3/3, 4/4, 5/5, 6/6, 7/7, 8/8, 9/9, 10/10, 12/12 = 100%.

The foregoing table may require two days for development.

EXAMPLE AT THE BOARD. A man paid $60 for a horse. He sold it, gaining 33 1-3%. What did he gain?

Develop by steps:

1. 33 1-3% = 1/3.
2. 1/3 of $60 = $20. $20 gain.—Ans.

In oral and written work examples similar to the above, using halves, thirds, fourths, fifths, keeping numerator 1.

FOR WRITTEN WORK.

1. A house that cost $3200 was sold at a gain of 25%. What was the gain?
2. A house that cost $3600 was sold at a loss of 33 1/3%. What was the loss?

During the same week pupils may develop the idea *selling price*. A simple example will readily help them. Illustration:

1. I bought a book for 5c and sold it so as to gain a penny. For what did I sell it? Pupil readily answers 6c.
2. I bought a pencil for 5c and sold it to my brother, losing 1c. For what did I sell my pencil?

Pupil develops:

a. gain + cost = selling price.
b. cost + gain = selling price.
c. cost—loss = selling price.

WRITTEN.

1. A man paid $6000 for a lot. He sold it at a gain of 33 1/3%. What did he gain and what did he receive for the lot?
2. A man buys goods at $40 and sells them at a profit of 20%. What is the selling price?

Friday of 1st Week.

REVIEW. Contents of bins in bushels.

TYPE. Find the capacity in bushels of a bin 1 yd. long, 2 ft. 4 in. wide, 5 ft. 4 in. high. Walsh's New Grammar School Arithmetic, pp. 201, 202.

From previous grade, pupil knows how to develop and solve by cancellation.

$$\frac{36 \times 28 \times 64}{2150.4} \text{ bu.} = 30 \text{ bu. Ans.}$$

See also Milne's Standard Arithmetic, p. 218 (268); Colaw and Ellwood, p. 251.

REVIEW the areas of rectangles.

TYPE. Find the area of a rectangle in sq. yd. 6 ft. 9 in. long and 5 ft. 8 in. wide.

6 ft. 9. in. = 6 3/4 ft. = 27/4 ft.
5 ft. 8 in. = 5 2/3 ft. = 17/3 ft.

Work in the abstract according to Smith of Columbia, and use cancellation:

$27/4 \times 17/3 \times 1/9 = 17/4 = 4\ 1/4$.
4 1/4 sq. yd.

PROBLEM. Find the area of a floor 14 ft. 3 in. long by 10 ft. 8 in. wide.

Second Week.

PROFIT AND LOSS (direct case continued).

1. Use all the aliquot parts, numerators of fractions to be more than 1.
2. Introduce numbers that will not cancel.

TYPES.

Oral: James bought a book for 15c and sold it at a gain of 60%. What did he gain?

Written: A man paid $8400 for a farm and sold it at a profit of 75%. What did he gain?

Written: A man bought a house for $6300 and sold it, gaining 133 1/3%. Find gain and selling price.

133 1/3% = 4/3.

4/3 of $6300 = $8400 gain.

$6300 + $8400 = $14,700 selling price.

Written: A merchant paid $5700 for a house and sold it at a gain of 60%. Find his gain.

$5700
.60

$3420.00 gain

Written: Mr. Black bought a machine for $775 and sold it at a loss of 30%. Find his loss.

30% = 3/10
3/10 of $775 = $232.5 Loss.
or, 30% = .30
$775
.30

$232.50 Loss.

Work similar to the foregoing will take 3 or 4 days.

FRIDAY devoted to test in profit and loss from first and second weeks' work.

Problems for practice found in the following text-books:

a. Milne's Progressive Arithmetic, 3rd Book, p. 204.

b. Walsh's New Grammar School Arithmetic, p. 231, p. 244, art. 320.

c. Sheldon's Complete Arithmetic, pp. 214, 215.

Third Week.

Continue work in profit and loss.

Introduction of per cents not readily reducible, as 17% = .17, 8% = .08, 63% = .63.

TYPE. A man paid $85 for a machine and sold it at a loss of 9%. What did he lose and for what did he sell it?

$85	$85.00 Cost
×.09	—7.65 Loss
7.65 Loss	$77.35 S. P.

Written: Mr. A. paid $345 for a lot and sold it at a gain of 17%. What did he gain and what was the selling price?

17% = .17

$345
×.17

2415
345

$58.65 Gain
+345. Cost

$403.65 S. P.

Introduce here:

The cost always = 100%. Therefore if gain = 17%, selling price must be 100% + 17% or 117% which equals 1.17.

Likewise, if loss is 9%, selling price must be 100% — 9% or 91%.

Hence, if some examples ask for the selling price and not the gain or loss, a pupil may directly work for the selling price alone.

PROBLEMS.

If cost is $345, and gain is 17%, selling price = 117% = 1.17.

Work: $345
×1.17

2415
345
345

403.65 S. P.

Comparison of result with that obtained by (Cost × Gain %) + Cost. If cost is $85, and by selling 9% was lost, selling price must be 91% or .91 of $85.

$85
×.91

85
765

$77.35 S. P.

Pupil compares this answer with answer obtained by previous method.

Oral: A boy paid $12 for a wheel and sold it at a gain of 5%. Find his gain.

$12
.05

$ .60 Gain.

Pupil must remember the 2 decimal places.

2. A man paid $74 for a wagon and in selling it, he found he had lost 5%. What did he receive for the wagon?

5% loss would give a selling price of 95%.

$74 Cost
× .95

370
666

$70.30 S. P. of wagon.

Third Week.

FRIDAY. Time devoted to test in abstract work or review work.

1. Example in addition of $ and cts.

2 Example in writing decimals.

3 Example in multiplication, decimal by decimal. 8.764 × 73.67 = ?

4. Example in long division, employing division of decimal by a decimal.

631.405 ÷ 3.7 = 170.65 Ans.

5. Problem finding contents of bins in bu.

6. Problem finding area of floor or ceiling.

Fourth Week.

Continue work on profit and loss, working with a mixed number in the rate %.

TYPE.

A man paid $380 for a carriage and sold it so as to gain 15 1/2%. Find his gain and selling price.

15 1/2% = .15 1/2 or .155

$380	$380
× .15 1/2	.155
190	1900
1900	1900
380	380
$58.90 Gain	$58.90 Gain

After a day's work of this order in finding gain or loss, pupil may be led to see that in case a number is given that affords opportunity for cancellation, that the mixed number represented in the % may be changed to a fraction; as

15 1/2% = 31/200.

Oral: A man paid $400 for a machine and sold it at a profit of 15 1/2%. Find his profit.

15 1/2% = 31/200.

31/200 of $400 = $62 Gain.

After a day's work of this order the pupil is ready for examples asking for the selling price without the gain or loss.

TYPE.

A man paid $460 for a machine and sold it at a gain of 14 1/2%. Find selling price.

100% Cost + 14 1/2% Gain = 114 1/2% Selling Price = 1.14 1/2.

$460 Cost
1.14 1/2

230
1840
460
460

$526.70 Selling Price

Reverse: Loss 14 1/2%. Find Selling Price. 100% Cost — 14 1/2% Loss = 85 1/2% Selling Price = .85 1/2.

$460 Cost
.85 1/2

230
2300
3680

$393.30 Selling Price.

Here lead pupils to see if the cost is given in a number that ends with an uneven number, it is profitable to change the 1/2 in 15 1/2% to 5 as .155

PROBLEM. Cost = $465 $465
Gain = 15 1/2% × .155
Gain in $ = ?

Work also to find directly the selling price when number and rate % are given similar to the following:

Number	Rate %		Fraction
$400	14 1/2%	=	29/200
600	15 1/3%	=	46/300
800	9 1/4%	=	37/400
1000	7 1/5%	=	36/500

1. A man paid $400 for a lot and in selling it he found he lost 14 1/2%. Find selling price.

14 1/2% = 29/200
200/200 — 29/200 = 171/200
S. P. = 171/200 or $400 = $342 S. P.

2. Cost = $400.

Gain = 14 1/2% = 29/200
S. P.?
200/200 + 229/200 = S. P.
229/200 × $400 = $458 S. P.

FRIDAY.

Time devoted to a test in profit and loss, application of difficulties found during the month.

Work with

1. aliquot parts less than 1, as 3/4, to find gain in $.

2. aliquot parts more than 1, as 5/4, to find gain in $.

3. with decimal form to find gain in $, 17% = .17.

4. with decimal form to find selling price in $.

5. with mixed number as 17 1/2% = .17 1/2 or .175 to find gain in $.

6. with mixed as 17 1/2% to find directly the selling price.

7. with mixed to change to fractional form 17 1/2% = 35/200.

8. with mixed to change to fractional form to get selling price directly.

With the foregoing difficulties mastered, the pupil should be able to do readily the direct cases in any other kind of work in percentage for the 6B grade.

SECOND MONTH.

SUBJECTS.

1. Percentage. Profit and Loss, indirect cases.

2. Contents. Gallons in vessels.

3. Business Forms. Checks and Endorsements (given for home work or study period).

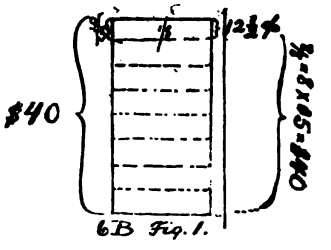
4. Measurements. Areas of rectangles.

NOTE.—Teach by diagram when possible.

First Week.

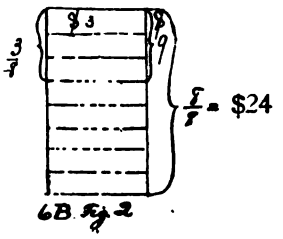
AIM. *To find the cost when rate % and gain or loss are given.*

TYPE. Oral: A man sold some silver at a profit of $5, thus gaining 12 1/2%. Find the cost of the silver.



After other aliquot parts have been used with numerator 1, use rate % equal to a fraction numerator more than 1.

TYPE. A man gained 37 1/2% by selling a book for $9 more than it cost him. Find what he paid for the book.



Analysis: 37 1/2% = 3/8

3/8 = $9
1/8 = 1/3 of $9 = 3
8/8 = 8 × $3 = $24

Similar problems in written work are given. Next step:

Rate % changed to fraction whose denominator is 100.

A man lost 7% by selling for $14 below cost. Find the cost.

7% = 7/100
if 7/100 = $14,
1/100 = 1/7 of $14 = $2
100/100 = 100 × $2 = $200 Cost.

Written work the same with larger numbers.

Next step:

Denominator of fraction 200, 300, etc.

TYPE.

Oral: An agent gained 2 1/2% by selling at a gain of $15. Find the cost.

2 1/2% = 5/200
5/200 G. = $15 G.
1/200 = 1/5 of $15 = $3
200/200 = 200 × 3 = $600

Written: A man lost 3 1/3% by selling his house for $250 below cost. Find the cost.

3 1/3% = 10/300
10/300 Lost = $250 Loss
1/300 = 1/10 of $250 = $25
300/300 = 300 × $25 = $7500 Cost

PROBLEM TO EMPLOY DECIMAL POINT.

A man gained 3 1/3% by selling his machine for $65 more than cost. Find cost.

3 1/3% = 10/300
10/300 G. = $65 G.
1/300 = 1/10 of $65 = $6.5
300/300 = 300 × $6.5 = $19.50 Cost.

Friday.

Review work.

1. Contents of gallons in vessels.
2. Areas of triangles.

See Walsh's, New Grammar School Arithmetic, p. 202.

TYPE.

1. Find the capacity in gallons of a tank 1 ft. 9 in. long, 1 ft. 3 in. wide, 1 ft. 10 in. deep.

$$\frac{21 \times 15 \times 22}{231} \text{ Gal.}$$

See problems 14, 16, 17 in Walsh.

See also Milne's Standard Arithmetic, p. 218 (269).

See also Colaw and Ellwood, p. 251.

2. Area of triangle.

TYPE. See Walsh's New Grammar School Arithmetic, p. 208 (3).

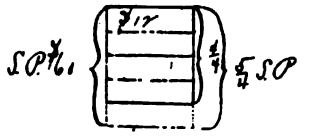
Second Week.

AIM.

1. *To find the cost when rate % and selling price are given.*

2. *To find selling price when rate % and gain or loss are given.*

TYPE. A man gained 25% by selling a horse for $60. Find cost.

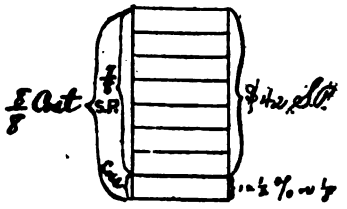


6B. Fig. 3.

Analysis 25% = 1/4.

4/4 C. + 1/4 G. = 5/4 S. P.
5/4 S. P. = $60 S. P.
1/4 = 1/5 of $60 = $12.
4/4 = 4 × $12 = $48 Cost.

TYPE. A man lost 12 1/2% by selling a wagon for $42. Find cost.



6B. Fig. 4

Analysis. 12 1/2 = 1/8

8/8 — 1/8 Loss = 7/8 S. P.
7/8 S. P. = $42 S. P.
1/8 = 1/7 of $42 = $6
8/8 = 8 × $6 = $48 Cost.

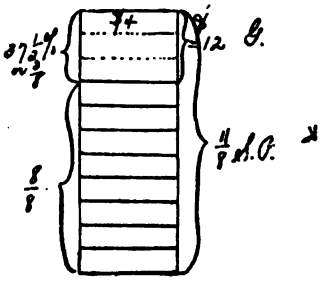
For written work use more difficult numbers.

TYPE. A merchant gained 8% by selling his farm for $3780. What did he pay for it?

100% C. + 8% G. = 108% S. P.
108% S. P. = $3780 S. P.
1% = 1/108 of $3780 = $35
100% = 100 × $35 = $3500 Cost.

To find selling price when rate % and gain or loss are given.

TYPE. A man gained 37 1/2% by selling a lamp for $12 above cost. For what did he sell the lamp?



6B. Fig. 5.

Analysis.

37 1/2% = 3/8
8/8 + 3/8 = 11/8 S. P. to work for.
3/8 G. = $12 G.
1/8 = 1/3 of $12 = $4
11/8 = 11 × $4 = $44 S. P.

TYPE. A merchant gained 225% by selling a painting for $81 above cost. Find S. P.

225 = 2 = 2 1/4
9/4 + 4/4 = 13/4 S. P.
9/4 = $81
1/4 = 1/9 of $81 = $9
13/4 = 13 × $9 = $117 S. P.

Friday.

Time devoted to test of two weeks' work following the difficult types.

Third Week.

AIM. 1. *To find rate % when cost and gain or loss are given.*

TYPE.

Oral: What per cent is gained if coffee costing 40c. is sold at a gain of 15c?

Compare the gain to the cost.
15c. compared to 40c. is 15/40.
15/40 = 3/8 = 37 1/2% Gain.

Written. A ship that cost $8130 was sold so as to gain $2710. Find gain %

271/813 = 1/3 = 33 1/3% Gain.

Written. A desk costing $81 was sold at a loss of $18.63. Find % loss.

$18.63 / .81 — 81)18.63 — 162 — 243 — 243 — .23 = 23% Loss.

Friday.

Time devoted to writing checks and endorsements.

See Ward's Business Forms.

Fourth Week.

AIM. 1. *To find rate % when cost and selling price are given.*

2. *To find rate % when gain or loss and selling price are given.*

Type under 1.

(a) What % was gained on a wagon that cost $75 and sold for $90?

$90 — $75 = $15 Gain.
15/75 = 1/5 = 20% G.

(b) What % was lost on a wagon that cost $90 and sold for $75?

$90 — $75 = $15 Loss.
15/90 = 1/6 = 16 2/3% Loss.

(c) A hat dealer buys hats at $48 a doz. and sells them at $5 each. What is his % of profit? (Smith's Grammar School Arithmetic, p. 195 (1)

See Smith for oral problems, p. 195.

Under 2.

Oral: A man gained 3c by selling a brush for 18c. What % did he gain?

18c — 3c = 15c Cost.
3/15 = 1/5 = 20% Gain.

TYPE.

Written: A man sold his horse for $322, thereby gaining $42. What % did he gain?

$322 — $42 = $280 C.
42/280 — 280)420 — 280 — 140 — 140 — 15 = 15% Gain.

TYPE. A merchant lost $105 by selling his machine for $645. What % did he lose?

$645 S. P. + $105 Loss = 750 Cost
105 compared to 750 = 105/750
750)105.00 — .14 = 14% Loss

For practical work of this kind see Smith, pp. 195, 196, 197.

Friday.

Time devoted to test in profit and loss.

References:

Smith's Grammar School Arithmetic.

Walsh's New Grammar School Arithmetic.

For more difficult problems, see Milne's Standard Arithmetic, pp. 231-249; Colaw and Ellwood, pp. 287, 288, 289; The Appleton Arithmetic, 3rd Book, p. 96.

Note. Some books treat profit and loss under three cases and two corollaries. Here the corollaries have been worked in under the type cases.

THIRD MONTH.

SUBJECTS.

1. Commercial discount.
2. Commission.

First Week.

A talk on the uses of commercial discount.

Commercial discount is employed:

1. to save expense.
2. to induce trade.
3. to encourage cash payment.
4. to encourage buying in large quantities.

TYPE.

Oral: See Walsh's Arithmetic, p. 249.

TYPE.

Written: Find the net price of an automobile listed at $2400 if the discounts are 25%, 20% and 10%.

List price	$2400
Less 25%	— 600
Remainder	1800
Less 20%	— 360
Remainder	1440
Less 10%	— 144
Remainder	1296 Net Price.

2nd, develop shorter method:

Find 90% of 80% of 75% of $2400 = 54% of $2400 = $1296.

.90	$2400
× .80	× .54
.7200	9600
× .75	12000
360	$1296.00 Net price
504	
.5400	

See Milne, 3rd Book, p. 210 (7, 8, 9, 10, 12).

Friday.

Time devoted to test in abstract work.

1. Addition of decimals.
2. Addition of $ and cts.
3. Subtraction of mixed number from whole number.
4. Cancellation example.
5. Multiplication: mixed number of three figures and a fraction by whole number of two figures.

Second Week.

Continue work on commercial discount.

AIM. To find a single discount equivalent to two successive discounts.

TYPE.

Written: What single discount is equivalent to two successive discounts of 15% and 10%?

15% off will give 85% on.

10% off will give 90% on

90% of 85% = .90 of .85 = .765 = 76 1/2%

100%—76 1/2% on will give 23 1/2 % off.

Therefore 15% and 10% discount = 23 1/2% discount.

For further work see:

1. Milne's Standard Arithmetic, p. 254.

2. Walsh's New Grammar School Arithmetic, p. 247 (12, 14, 15, 16, 18, 20, 21).

Friday.

Test in commercial discount.

Types in oral:

1. Bill of $300, discounted with 1/3 and 1/4 off. Net bill?

2. Desk listed at $80 is discounted at 25% and 33 1/3%. Find net price.

3. What one per cent must a man pay who gets 1/4 and 1/3 off?

TYPE.

Written: Colaw and Ellwood, p. 280 (3-7).

Third Week.

AIM. To teach commission.

TYPE.

Oral. 1. What should be paid to an agent who charges 5% for collecting a debt of $300?

5/100 of $300 = $15 commission.

2. What is $200 plus 10% commission?

See Smith, pp. 199, 200, for oral and written problems.

Written:

1. A traveling agent sold on a commission of 5% goods amounting to $213.75. What was his commission?

2. At 1/16% what is the brokerage on $6000 value of shares of stocks?

3. A clerk receives $4 a week and 2% commission on goods sold. If he sells $372 worth of goods in a week, what is his income for the week?

Friday.

a. Problems employing areas of rectangular figures; of triangular figures.

b. Problems finding number of bushels in bins; number of gallons in vessels.

Fourth Week.

Continue work on commission with more difficult numbers.

TYPE.

At 10% commission, what does a collecting agent receive for collecting a debt of $95.70?

Written. To find net proceeds:

A commission merchant sold 1450 bbls. of beef at $15 per bbl., commission 2%. He paid $130 for freight, $15.75 for cartage, and $15 for storage. Find commission and net proceeds.

References.

1. Smith, p. 201.

2. Milne, 3rd Book, pp. 207, 208 (11, 14, 15, 16, 19, 20, 21, 22).

Milne's Standard Arithmetic, pp. 252, 253.

Friday.

Time devoted to test reviewing commercial discount and commission.

FOURTH MONTH.

First Week.

SUBJECT.

TAXES. Show tax bills. Rate given.

(a) in %.

(b) in mills on the dollar.

TYPE.

Written: 1. A house valued at $10000 is taxed at 13/4%. Find tax.

2. What tax will be paid by a man whose house is valued at $5160, personal property at $7815, and who pays a poll tax of $1, at the rate of taxation 1/4%?

Colaw and Ellwood, p. 291 (5).

3. At 5 mills on a dollar, how much is the tax of a man who owns a farm of 150 acres, worth $50 an acre, but assessed for only 3/5 of its value?

Colaw and Ellwood, p. 291 (6).

If he does not pay the tax when due and a penalty of 5% additional is added, what is his tax?

4. I buy a lot for $500 and build a house on it for $3000. I pay a tax on the whole of 7 mills on a dollar, the property valuation being 2/3 of the cost. For how much must I rent the house and lot to realize 10% a year on the cost price?

Friday.

Time devoted to abstract work:

1. Divide whole number by mixed number.

2. Divide mixed number by mixed number.

3. Complex fraction:

$$\frac{(2/3 \times 4\ 1/5) - 7/10}{5/6 + 3/10) \div 4/5} = ?$$

Second Week.

TAXES continued.

Rate % given in terms of "on the hundred," "on the thousand."

TYPE.

1. Find tax on property valued at $8500, at $1.413 on the hundred.

See Milne's 3rd Book, p. 213 (9).

2. What will be the taxes on a house worth $48,000 and assessed at 2/3 of its value, the tax rate being $18 50 per $1000 of assessed valuation?

Walsh's New Grammar School Arithmetic, p. 242 (19).

Milne's Standard Arithmetic, p. 256 for tax table.

Friday.

Test reviewing work on taxes.

Third Week.

SUBJECT. DUTIES.

Terms: leakage, ad valorem, breakage, specific duty, tare, invoice, duties or customs, internal revenue, custom houses, ports of entry, tariff.

First use ad valorem duty and specific duty separately.

TYPE. What is the duty on 420 yards of broadcloth invoiced at $1.75 per yard, at 25% ad valorem.

2. What is the duty at 2¼c per pound on 2800 lbs. of rice, allowing 5% for tare?

Milne's Standard Arithmetic, p. 258 (1, 2).

Colaw and Ellwood, p. 292 (1, 2, 3, 4).

Friday.

Review indirect cases in profit and loss.

Fourth Week.

SUBJECT. DUTIES continued.

Find total duty.

TYPE.

Find the duty on blankets valued at $150 weighing 450 lbs., tariff 30% + 22c per lb.

See:

1. Milne's Progressive Arithmetic, 3rd Book, p. 215.

2. Colaw and Ellwood, p. 293 (10).

3. Walsh, p. 242, (22) for foreign money.

4. Milne's Progressive, 3rd Book, p. 216 for foreign money.

Friday.

Test on duties.

FIFTH MONTH.

First Week.

SUBJECT: INSURANCE.

First two days, rate given in %.

See Milne's Standard Arithmetic, pp. 259, 260.

TYPES.

1. How much is the annual premium on a policy of insurance on a factory for $8500, if the rate is 3/4%?

2. A man insured a row of 7 houses at $5800 each, paying an annual rate of 1 3/4%. How much does it cost him?

3. A cargo worth $9670 was insured for 9/10 of its value at 3 1/2%. In case of shipwreck what would be the actual loss to the owner?

Third and fourth days, rate given in terms of cts. on the hundred dollars.

TYPE.

A frame house with a single roof was insured for $3500 at 70c per $100 for one year. Find the premium.

See Milne's Progressive Arithmetic, 3rd Book, p 218 (1-10)

Friday.

Test on insurance covering steps taken.

Second Week.

SUBJECT. 1. Measurements. See Syllabus.

a. Potatoes, wheat, oats, &c.

b. Gallons of water by weight.

2. Continue insurance.

a. Personal insurance.

Under 1. a. Measurements.

See Smith's Grammar School Arithmetic, p. 228.

1. How many tons to 1000 bushels of wheat?

2. The weight of shelled corn is what per cent. of the weight of the same amount of corn on the ear?

b. Weight of water.

See Smith, p. 229.

What is the weight of 2 cu. ft. of water?

Under 2. Insurance.

See Milne's Standard Arithmetic.

1. How much will be the annual premium on a life insurance policy for $4000, at $25.70 per $1000?

See also Milne's Progressive Arithmetic, 3rd Book, pp. 220-221.

Third and *Fourth Weeks* or last two weeks of the term.

Review Work.

6B HISTORY.

By Mary T. Crowley.

First Week.

I. ORIGINAL THIRTEEN STATES.

1. Their claim to northwest territory.

2. The cession of these states.

II. THE ORDINANCE OF 1787.

1. Importance of the ordinance.

2. 29 territories organized by Congress from western land.

These territories dominated for 119 years by laws drawn from the ordinance of 1787.

III. PURCHASE OF LOUISIANA.

Date—Administration. From Whom —Price.

IV. EMIGRATION WESTWARD.

1. National road from Cumberland on the Potomac to the Ohio.

2. Finally by state governments to the Mississippi.

3. A continuous stream of emigrant wagons.

4. Acquisition of Florida and events leading up to the same.

Second Week.

I. ADMISSION OF TEXAS, 1845.

1. Mexico belonged to Spain 1821.

2. Texas revolted from Mexico and became independent in 1836.

3. Texas anxious to be annexed to United States. Objections of the United States.

II. Mexican War.

1. Causes.

Texas claimed the Rio Grande as her boundary line. Mexico claimed the Nueces.

Mexico had never recognized the independence of Texas, and therefore opposed its annexation.

2. Events.

Taylor.
Palo Alto.
Resaca de la Palma.
Monterey.
Buena Vista.
Scott.
Vera Cruz.
Guadaloupe.
Chapultepec.
Cerro Gordo.
City of Mexico.

Treaty of Guadaloupe Hidalgo, 1848.

The Rio Grande made the boundary line of Texas.

United States paid Mexico $15,000,000 to give up her claim to the disputed territory.

3. Territory acquired by Mexican War.

(1) California and New Mexico.

III. Gold Discovered in California, 1848.

Emigration to California.

IV. Oregon Acquired by Discovery in 1791-2.

Treaty of 1846 with England.

Lewis and Clark Expedition, 1804-6.

V. Purchase of Alaska from Russia, 1867 for $7,200,000.

Third Week.

I. Growth of Population. Emigration West.

How people lived. Occupations. Education. Growth of temperance reform and effect. Prisons.

II. Great Inventions.

a. Cotton-gin, 1793.
b. Steamboat, 1807.
c. Gas, 1825.
d. Friction matches, 1829.
e. Railroad, 1830.
f. McCormick reaper and mower, 1834.
g. Ericson's screw propeller, 1836.

III. Great Inventions (continued).

a. Goodyear's waterproof clothing, 1839.
b. Steam fire-engine, 1841.
c. Morse's telegraph, 1832-1844.
d. Howe's sewing machine, 1846.
e. Hoe's steam printing press, 1847.
f. Bell's telephone, 1876.
g. Arc light and Edison's incandescent light, 1879.
h. Electric railway, 1884.

Fourth Week.

Tariff and Revenue Explained.

1. Tariff for revenue.
2. Tariff for protection.

I. Financial Measures of Hamilton

United States Bank.

Protective tariff of 1816 and 1824.

The condition of the country's business after the war.

The division of the North and the South on the question.

Renewal of bank's charter.

II. Nullification Act, 1832.

Compromise tariff, 1833.

United States Bank Bill vetoed by Jackson.

Removal of the deposits. Attending disasters.

Fifth Week.

THE SLAVERY QUESTION.

I. HISTORY OF SLAVERY IN COLONIES FROM 1619.

Ordinance of 1787 prohibiting slavery in the northwest territory.

Invention of the cotton-gin 1793.

Importation of slaves forbidden, 1807.

II. MISSOURI COMPROMISE, 1820.

Compromise of 1850.

Fugitive slave law.

III. UNCLE TOM'S CABIN, 1852.

Kansas-Nebraska Bill, 1854.

Dred Scot Decision, 1857.

Sixth Week.

I. JOHN BROWN'S RAID, 1859.

Election of Lincoln, Nov., 1860.

States Right Doctrine.

Secession of South Carolina, Dec., 1860.

Formation of Confederacy, Feb., 1861.

II. ATTACK ON FT. SUMTER.

Declaration of war.

Advantages of North and South.

Seventh Week.

I. ADVANCE ON RICHMOND.

Stonewall Jackson in the Shenandoah.

Seven Day's Battle.

II. SECOND BATTLE OF BULL RUN.

Antietam, Fredericksburg.

III. MERRIMAC AND MONITOR.

Eighth Week.

I. CONTEST IN THE WEST.

1. Pittsburg Landing.
2. Ft. Henry, Ft. Donelson.

II. ON THE MISSISSIPPI.

1. Vicksburg.
2. Port Hudson.
3. Farragut and New Orleans.

III. EMANCIPATION PROCLAMATION.

Ninth Week.

I. CHANCELLORSVILLE.

Lee marches North.

II. GETTYSBURG.

III. SIEGE OF VICKSBURG.

Tenth Week.

I. CHATTANOOGA.

Grant commander of all forces.

The North to move in concert under one general.

Grant's advance.

II. SHERIDAN'S RIDE.

Sherman's March to the Sea and North.

III. HOOD'S DEFEAT AT NASHVILLE.

IV. SURRENDER OF LEE, FALL OF RICHMOND.

Eleventh Week.

I. ASSASSINATION OF LINCOLN.

Study of Lincoln (see Gordy's American Heroes).

II. EFFECTS OF THE CIVIL WAR.

III. RECONSTRUCTION.

Twelfth Week.

I. INDUSTRIAL GROWTH.

Betterment of the South.

Tariff measures since the war.

II. GROWTH OF GREAT CITIES.

Misfortunes in cities.

Immigration.

Transcontinental railroads.

Union Pacific Railroad, 1869.

Thirteenth Week.

I. SPANISH-AMERICAN WAR. CAUSE.

II. SPANISH-AMERICAN WAR. RESULT.

Compare it with Mexican War.

III. DEPENDENCIES.

IV. REVIEW BY ADMINISTRATIONS.

Fourteenth Week.

I. MONROE'S ADMINISTRATION.

II. ADAMS'S ADMINISTRATION.

III. JACKSON'S ADMINISTRATION.

Fifteenth Week.

I. VAN BUREN'S ADMINISTRATION.

Harrison's and Tyler's adminstrations.

II. POLK'S ADMINISTRATION.

III. TAYLOR AND FILLMORE'S ADMINISTRATION.

Sixteenth Week.

I. LINCOLN'S ADMINISTRATION.

Seventeenth Week.

I. LINCOLN'S ADMINISTRATION.

Eighteenth Week.

I. GRANT'S ADMINISTRATION.

II. HAYES'S ADMINISTRATION.

III. GARFIELD'S ADMINISTRATION.

Nineteenth Week.

I. CLEVELAND'S AND HARRISON'S ADMINISTRATIONS.

II. MCKINLEY'S ADMINISTRATION.

III. ROOSEVELT'S ADMINISTRARION.

REVIEW OF ADMINISTRATIONS.

LESSON I. MONROE, 1817-1825.

EVENTS.

I. THE SEMINOLE WAR. The Seminole War broke out in Florida and Georgia. Jackson was sent down to smooth matters, but his zeal exceeded his instructions and he invaded Florida, executing many Spaniards who had been troublesome. This episode later led to the acquisition of Florida by the United States.

II. SLAVERY QUESTION. *Missouri Compromise,* 1820.

Missouri applied for admission, and the South, true to its principle of the balance of power, insisted upon having the state admitted as a state with slavery. A great deal of public feeling was stirred, emanating from the fiery debates in Congress. At this time Maine applied for admission and the South saw its way clear. A compromise was effected, the provisions of which were as follows:

1. Let Missouri come in as a slave state. (That will please the South).

2. Let Maine come in as a free state. (That will please the North).

3. Slavery was to be forever prohibited in all the territory north of 36° 30′ north latitude.

III. THE MONROE DOCTRINE.

South America had been struggling to establish a republican form of government. Many revolutions had been successful, Spain being unable to cope with the situation. The United States thought it high time to state its position when Spain called to its aid a number of European allies—France, Russia, Prussia and Austria-Hungary—to form the Holy alliance. The object of the alliance was two-fold: To help Spain reestablish her authority in America and put down all forms of republican government.

Monroe, in his message to Congress, expressed his position in words which have become memorable. The underlying principle has become a bulwark against encroachment on American territory.

Provisions of the Monroe Doctrine:

1. The United States was not to take part in any European war.

2. America was not to be considered as subject for future colonization by any European power.

3. Any attempt to plant colonies in America would be considered by the United States as an unfriendly act and an occasion for war.

LESSON II. ADMINISTRATION OF J. Q. ADAMS.

EVENTS.

1. Many Indian tribes living within confines of Georgia and Alabama had sold their lands to the government. Others entered into various treaties ceding lands. Most of these tribes, foremost among whom were the Creeks, were transferred to Western reservations.

2. Vicissitudes of trade turned the eyes of the nation to the necessity of promoting all industries. To encourage trade, the country was led into creating a system of tariff for protection by means of which scheme industries competing with foreign importations were placed on equal or more advantageous footing by placing a tax on the imported article. The consumer was deprived of a cheaper market and forced to buy domestic or home manufactures, thereby increasing expenditures. The entire South strenuously objected, their indignation finding expression in the Nullification Act of 1832. During the election of 1829, party strife was violent and the country was on the verge of a civil war.

LESSON III. JACKSON, 1829-1837.

EVENTS.

I. NULLIFICATION ACT, 1832.

Because of the "tariff of abominations," as the protective tariff of 1828 was called, South Carolina passed the nullification by which she refused to pay the protective tariff and even threatened to leave the Union. Jackson with his usual promptness informed the state of his intention to execute the laws of the United States. Henry Clay, the peacemaker, had the question settled by a compromise which lowered the tariff.

II. BANK TROUBLES.

The National Bank had been established by Hamilton and the Federal moneys deposited there. The charter granted to the bank was to expire during Jackson's first term. He conceived a violent dislike for the bank and its management and called for the cancellation of the charter. He withdrew the money from the bank of the United States and placed it in State banks. This made it easy for individuals to borrow money and speculation became rampant. The crash came in the next administration.

III. INDIAN TROUBLES.

The policy of removing the Indians to distant reservations met with forcible opposition. The Black Hawk war broke out in the regions near the Mississippi and northern Illinois. The Sacs and Foxes under Black Hawk did not concur in our decision to remove them to new hunting grounds.

Fourteenth Week.

LESSON I. VAN BUREN, 1837-1841.

EVENTS.

I. PANIC OF 1837.

The crisis that threatened to break and crush our commercial life broke loose in 1837. The banks called in their loans, and many firms unable to meet demands went into bankruptcy. Business depression settled on every part of the land. Even the United States could not pay its bills.

European immigration.

HARRISON'S AND TYLER'S ADMINISTRATION, 1841-1845.

EVENTS.

I. DORR'S REBELLION.

A disturbance occurred in Rhode Island growing out of the effort made by a number of people to obtain a more liberal government for the state. The charter that Charles II granted was still in force.

In 1841 this new state constitution was adopted and the old one nullified. The existing government refused to recognize the newly-elected officers and proceeded to conduct the affairs of the state as of old. T. W. Dorr was elected governor. Dorr was arrested, tried on a charge of treason, but afterwards pardoned.

II. INVENTION OF THE ELECTRIC TELEGRAPH.

S. F. B. Morse perfected this magnetic telegraph that revolutionized business methods and brought our country in closer relationship. The first message was sent from Baltimore to Washington. It was, "What hath God wrought." Reference, Gordy's American Heroes.

III. ANNEXATION OF TEXAS, 1845.

Texas formerly belonged to Mexico. Mexico belonged to Spain. In 1821 Mexico revolted from Spain. In 1835 Texas under Sam Houston revolted from Mexico, drew up a constitution which was recognized by the United States and England and declared herself a republic. She called herself, "The Lone Star Republic." She then applied for admission into the Union. The question immediately arose about slavery. Shall it be free or slave? According to the Missouri Compromise, it was slave territory, being south of 36° 30'. The North objected to its admission for two reasons:

1. It would add another slave state to the Union for which there was no free state to hold the balance.

2. It feared a war with Spain. Texas was finally annexed to the United States as a slave state, 1845. This was the issue of the next electoral campaign.

LESSON II. JAMES K. POLK, 1845-1849.

EVENTS.

I. MEXICAN WAR, 1845-1848.

1. CAUSES.

(a) Dispute over the boundary line of Texas. Texas claimed the Rio Grande as her boundary line and Mexico claimed the Nueces.

(b) Mexico had never recognized the independence of Texas and therefore opposed its annexation.

2. BATTLES.

Gen. Taylor:
- Palo Alto.
- Resaca de la Palma.
- Monterey.
- Buena Vista.

Gen. Scott:
- Vera Cruz.
- Cerro Gordo.
- Chapultepec.
- City of Mexico.

3. TREATY OF GUADALOUPE HIDALGO, 1848.

(a) Rio Grande made the boundary line of Texas.

(b) The United States paid Mexico $15,000,000 to give up her claim to the disputed territory.

II. DISCOVERY OF GOLD IN CALIFORNIA.

Gold was found on the eastern branch of the Sacramento River by Captain Sutter. Eighteen months later 100,000 people had emigrated from different parts of the country to this El Dorado. A city sprang into existence and in a short

time a new state was born. Lawlessness at first prevailed, but the more peaceable citizens organized some form of government and by administering crushing, speedy justice, reduced the lawless element into submission.

III. TEXAS, IOWA AND WISCONSIN WERE ADMITTED, MAKING THE TOTAL NUMBER OF STATES 30. HALF WERE FREE AND HALF WERE SLAVE.

LESSON III. TAYLOR AND FILLMORE, 1849-1853.

EVENTS.

I. The slavery question again came to the front. California applied for admission to the Union. Part of California was north of 36° 30′, which part should be free territory; and a part south of 36° 30′, which part should be slave territory according to the Missouri Compromise. The question was settled by the Omnibus Bill or Compromise of 1850, which said:

1. Let California come in as a free state.

2. Utah and New Mexico were to be admitted without any provision as to slavery.

3. Fugitive Slave Law. This compelled the return of runaway slaves to their masters.

4. Slave trade was to be abolished in the District of Columbia.

II. Publication of Uncle Tom's Cabin by Harriet Beecher Stowe, 1852.

PIERCE'S ADMINISTRATION, 1853-1857.

EVENTS.

I. KANSAS-NEBRASKA BILL, 1854.

The country was thrown into great excitement by the passage of the bill. It stated:

1. The La Platte territory was to be divided into two parts, to be known as Kansas and Nebraska.

2. These were to decide for themselves whether they wanted slavery.

The result was that the North and the South sent settlers into the disputed territory. It resulted in civil war in Kansas, so much blood being shed that it was called "Bleeding Kansas."

II. GADSDEN PURCHASE.

General Gadsden succeeded in negotiating the sale of a disputed tract of land in the Mexican treaty with the United States. He paid $10,000.000 and the United States secured the region known as the New Mexico Territory.

III. JAPAN.

Commander Perry in his trip to Japan first opened its doors to American comity. He concluded a treaty by which he gave to the merchants of our country two ports of entry into Japan, heretofore an exclusive country.

BUCHANAN'S ADMINISTRATION, 1857-1861.

I. DRED SCOT DECISION, 1857.

Dred Scot was a slave living with his master in the slave state of Missouri. His master moved to the free state of Illinois and then back to Missouri. Scot now claimed he was a free man since he lived on free soil. The case was taken to the Supreme Court of the United States. The decision of the court was:

1. Dred Scot was not a citizen of the United States and therefore had no right to bring suit in the United States Supreme Court.

2. Since a slave is no more than any other article belonging to his master, the latter could take him wherever he chose.

II. JOHN BROWN'S RAID, 1859.

Minnesota, Oregon, Kansas admitted as free states. This brought to an end the policy strongly advocated by the South to maintain a balance of power between the slave and the free states.

Sixteenth Week.

LINCOLN'S ADMINISTRATION.

EVENTS.

I. CIVIL WAR.

1. CAUSES.

(a) The real cause of the Civil War was to decide whether the Union was to be preserved or the theory of States Rights upheld.

(b) The secondary cause was the question of slavery.

(c) The immediate cause was the attack on Ft. Sumter.

2. Formation of the Confederacy.

After the election of Lincoln, South Carolina seceded from the Union December, 1860. In February, seven more states sent representatives to Montgomery, Alabama. There they drew up a new form of government to be known as the Confederacy of America, elected Jefferson Davis as their president, and selected Montgomery as the capital. They adopted a new flag, the Stars and Bars.

The Confederacy was composed of Mississippi, Florida, Alabama, Georgia, Louisiana, North Carolina, Texas, Virginia, Tennessee and Arkansas.

3. Fall of Ft. Sumter, April 14, 1861.

War declared. Lincoln called for 75,000 volunteers to serve for three months.

Confederacy recognized by Great Britain.

4. Union Plans.

To capture Richmond.

To blockade the southern ports.

To open the Mississippi and thus cut the Confederacy in two.

5. Events of 1861.

Battle of Bull Run, McDowell, Union leader; Beauregard, Southern leader. Result, North defeated. Taught North a good lesson that its army needed better training. The rest of the year was given over to military training.

6. Advantages of the North.

(a) A larger army.

(b) The industries could go on because the war was carried on in southern territory.

(c) Government paid the expenses of the war.

(d) Factories could be kept open to keep soldiers supplied.

7. Advantages of the South.

a) They had better trained soldiers and generals.

(b) It was fighting on the defensive and knew the lay of the land.

(c) The slaves remained at home to do the work on fields, etc.

8. Army of the Potomac created with George McClellan in command.

9. Events of 1862.

Grant captured Ft. Henry and Ft. Donelson. At latter engagement earned the title of Unconditional Surrender Grant.

Battle of Shiloh—Death of Albert S. Johnston. Capture of New Orleans.

Monitor and the Merrimac.

Seven days Battle before Richmond.

McClellan fails in the peninsular campaign.

Second Battle of Bull Run.

Confederate army under Lee invades Maryland.

Retreat after Battle of Antietam, September 17, 1862.

Burnside succeeds McClellan.

Burnside defeated at Fredericksburg.

Command given to Joseph Hooker.

10. Events of 1863.

Lincoln issues Emancipation Proclamation as a war-measure, Jan. 1, 1863. Freed the slaves in the seceded states.

Defeat of Hooker at Chancellorsville.

Command given to Meade.

Lee's Second Invasion of the North.

Battle of Gettysburg, July 1, 2, and 3, 1863. Turning point of the war. Lee gave up all hope of ever capturing Washington.

Capture of Vicksburg, July 4, 1863.

Fall of Port Hudson, July 9, 1863.

This completed the opening of the Mississippi.

Grant made commander of the Department of the Mississippi and defeated the Confederates at Lookout Mountain and Missionary Ridge.

11. Events of 1864.

Grant made commander-in-chief—fought the Battle of the Wilderness, Spottsylvania and Cold Harbor. Began the siege of Petersburg.

Sheridan defeated Early in the Shenandoah Valley.

Sherman's march to the sea. Captures Atlanta and Savannah.

Thomas crushes Hood at Nashville.

Farragut captures Mobile.

12. Events of 1865.

Battle of Five Forks compels the evacuation of Petersburg and Richmond by the Confederates.

Surrender of Lee at Appomatox Court House, April 9, 1865.

Kindness and courtesy of Grant.

Assassination of Abraham Lincoln, April 14, 1865.

Vice-President Andrew Johnson succeeds to the Presidency.

Proclamation of Amnesty.

Reconstruction begun.

Thirteenth Amendment adopted.

Freedmen's Bureau established.

Seventeenth Week.

RECONSTRUCTION AND LINCOLN.

With the success of Union arms, the question that loomed up at the conclusion of the war was shaping itself gradually. What should be done with the seceding states when subdued? The fortune of war had turned the tide of victory and Lee had surrendered. The process of welding the whole nation into one had been termed Reconstruction. It lasted throughout the administration of Grant and Johnson. The question of slavery had put a different construction upon the task since no restoration of the former states could exist after the Emancipation Proclamation. The slaves must be free. Congress considered this question in all its phases, and its councils were various and conflicting. Gradually these decisions resolved into two schemes rife with possibilities of future antagonism.

The plan Lincoln favored has been termed "The Presidential Plan of Reconstruction." His plan was one of peace and quiet restoration. It was best he thought to blot out all memories of the awful struggle and renew the national life of the country.

There was a great deal of opposition to this plan. T. Stevens voiced the anti-Presidential sentiment in these words: "They will find that they cannot execute the Constitution in the seceding states, that it is a total nullity there and that this war must be carried on upon principles wholly independent of it. They will find that they must treat these states outside the Union as conquered prov-

inces, and settle them with new men, and drive the present rebels as exiles from the country." This plan became known as the Congressional Plan.

Congress denounced the President's plan as savoring of party aggrandizement. The President issued a proclamation stating his views upon the subject of reconstruction. He assured himself of the returning loyalty of the disaffected states and of appointing a military governor and of helping the people of these states to reorganize their government according to the Constitution of the United States.

This bill proposed by the President did not pass and was abandoned in 1864, leaving the President to his own devices. Many states wrested from the Confederacy during the early stages of the war came under the ruling of the President's plan. Federal troops presided over the elections and saw that those persons who had not taken the oath or who were among those included in the proclamation, were kept out of the decisions.

Arkansas and Louisiana adopted this plan. In the midst of this struggle, Lincoln was assassinated.

Reconstruction and Johnson.

Johnson disapproved Lincoln's plan of leniency and mercy, declaring that the American people must be taught to know and understand that treason is a crime. It must not be regarded as a mere difference of political opinion. It must not be excused as an unsuccessful rebellion to be overlooked and forgiven.

Congress was delighted with this expression of his views but failed to cooperate with him on account of his obstinacy and lack of tact.

The *Proclamation of Amnesty* was the first step taken which granted pardon to all but thirteen classes. The scheme of reconstruction was in operation in many states, differing only in particulars. Military governors were elected with instruction to help the people to reinstate their old governments minus the existence of laws abridging the right of individuals to enjoy the franchise on account of color. The South had passed laws that had for their purpose the keep- of negroes in involuntary servitude.

The reconstructed governments of Mississippi and South Carolina, fearful of the acquisition of the influence by the laboring class, passed stringent measures under the pretext of keeping them from vagrancy. Congress viewed these laws as a breach of faith. The South was to come under the rulings of the Congressional plan—a plan that introduced the word *thorough* to express the punitive attitude of Congress in the next two years. Congress passed laws which became embodied in the Fourteenth Amendment.

Congress became the champion of the right of the slaves and established the Freedmen's Bureau. Johnson vetoed all these measures but Congress overruled his veto.

The Reconstruction Act, March 2, 1867.

The Southern states to be divided into five military districts.

An officer and Federal troops assigned to each district by the President.

These officers given full civil and criminal jurisdiction.

The commanders were to enroll all male voters not disenfranchised by felony.

General election of state delegates was to be held.

These delegates were to frame a constitution granting the franchise to all

members of voting age without regard to race, color or previous condition of servitude.

This constitution was to be ratified by the same body of electors and later by Congress.

AMENDMENTS TO THE CONSTITUTION.

XIII. Giving freedom to all slaves in the United States.

XIV. (a) Stated who were citizens and specified their rights.

(b) That representation was to be according to the number of voters until pardoned by Congress.

(c) That those who took part in the Rebellion were ineligible to office.

(d) That the public and private war debt of the Confederacy was to be repudiated.

XV. Gave the three classes the right to vote.

Alaska Purchase, 1867. Nearly 600,000 sq. miles purchased from Russia.

Telegraph cable successfully laid 1866.

Eighteenth Week.

GRANT'S ADMINISTRATION, 1869-1877.

I. Completion of the Reconstruction Policy by the adoption of the Fifteenth Amendment.

II. Alabama claims awarded, 1873.

A board of commissioners, from five friendly nations met at Geneva, Switzerland, and agreed that Great Britain should pay the United States the sum of 15½ million dollars. Great Britain promptly paid the debt.

III. Centennial Exhibition in Philadelphia, 1876.

Celebrated the birthday of the United States.

ADMINISTRATION OF HAYES, 1877-1881.

I. Resumption of specie payment.

On January 1, 1879, the United States Government and the national banks resumed specie payment. The country again carried on business upon the same basis as other nations. The war debt was rapidly diminishing.

II. Industrial growth.

See Scudder, p. 395, and McMaster's History of the United States.

JAMES A. GARFIELD—CHESTER A. ARTHUR, 1881-1885.

I. Assassination of Garfield, July 2, 1888, by a disappointed office seeker.

II. Arthur succeeded Garfield.

1. Suspension Bridge between New York City and Brooklyn opened for travel May 24, 1883.

2. Northern Pacific Railway completed.

Nineteenth Week.

GROVER CLEVELAND, 1885-1889.

I. Chinese Exclusion Bill, 1888.

Chinese forbidden to enter this country because

1. They worked for low wages.

2. They came to get all they could and then returned to spend it in China.

II. Death of Grant, July 23, 1885. See Scudder, p. 406.

III. Presidential Succession Act.

BENJAMIN HARRISON, 1889-1897.

I. Oklahoma Territory opened to settlers.

II. McKinley Tariff.

To revise laws respecting duties on imports.

III. Venezuela.

Monroe Doctrine applied to the settlement.

GROVER CLEVELAND, 1893-1897.

1. Great World's Fair in Chicago, 1893.

WILLIAM McKINLEY, 1897-1901.

I. Spanish-American War, 1898.

Causes: The effort of Spain to suppress insurrection in Cuba was conducted with so much cruelty that it aroused the sympathy of America. In 1898 a riot broke out in Havana. Americans were thought to be in danger, and the battleship Maine was sent to protect them. This ship was sunk by an explosion of a magazine within the boat. The explosion was attributed to a mine operated by the Spaniards.

II. American Plan of War.

To attack Spain through her colonies, Cuba and the Philippines.

Squadrons:

Name	*Commander*
Key West	Sampson
Flying Squadron	Schley
Northern Patrol	Howell
Pacific	Dewey

IMPORTANT EVENTS.

1. Manila—naval battle.

Admiral Dewey destroyed the Spanish Fleet in Manila Harbor.

2. Surrender of Santiago, July 3, 1898.

Destruction of the Spanish Fleet under Cervera.

3. Invasion and capture of Porto Rico by General Miles.

4. Capture of Manila August 3, 1898, by combined land and naval forces.

Peace.

1. Cessation of hostilities.

2. Meeting at Paris for formal treaty.

3. Abandonment of Cuba by Spain.

4. Porto Rico and one of the Ladrone Islands given to United States.

5. City and Bay of Manila given to the United States pending the conclusion of a treaty of peace, which would determine the control and form of the government of the Philippine Islands. Later these islands were ceded to the United States in exchange for $25,000,000.

Hawaii annexed.

McKINLEY'S SECOND TERM.

I. Assassination at Pan-American Exposition, Sept. 6. 1901.

II. Succeeded by Roosevelt, 1901-1905.

1. United States recognized as a world power. By the acquisition of the Philippines she became a colonial power and was brought into closer relation with the East.

Pacific cable laid 1902.

Wireless telegraphy by Marconi, 1903.

THEODORE ROOSEVELT, 1905-1909.

I. Peace Conference in Portsmouth resulting in the settlement of Russo-Japanese War.

II. Construction of the Panama Canal.

III. Financial Panic of 1907 caused by over-speculation and misuse of depositors' money by the heads of financial institutions.

IV. Death of Cleveland.

6B CIVICS.

By Mary T. Crowley.

First Week.

CITY OF GREATER NEW YORK.

1. Divisions of the city.

Boroughs—Manhattan, Bronx, Brooklyn, Queens, Richmond.

2. Government.

Divided into three departments, namely:

Legislative—Law making.

Executive—Law enforcing.

Judicial—Law interpreting.

3. Divisions of city for purposes of government.

The city is divided into 73 aldermanic districts—congressional districts—senatorial districts—assembly districts.

From the aldermanic districts are chosen the aldermen. From the senatorial districts and assembly districts are elected our State legislators.

Second Week.

CITY GOVERNMENT—LEGISLATIVE DEPARTMENT.

The legislative department of New York City is vested in the Board of Aldermen.

The Board of Aldermen consists of

1. 73 aldermen elected by the people.

Each alderman is elected by the people of each aldermanic district.

2. President of the Board of Aldermen also elected by the people, to serve for four years.

3. Five borough presidents, elected by the people of their respective boroughs.

Third Week.

POWERS AND DUTIES OF BOARD OF ALDERMEN.

1. It must hold at least one meeting a month, except during August and September.

2. The board has power to pass local by-laws or ordinances for the city upon subjects enumerated in the charter.

3. It has power to make and enforce local police, health, park, fire and building regulations.

4. It has power to make by-laws for the erection of public markets, parks, streets, bridges.

5. It may grant franchises for street railroads and ferries.

Fourth Week.

PRESIDENT OF THE BOARD OF ALDERMEN, BOROUGH PRESIDENTS.

The President of the Board of Aldermen is elected at the same time as the Mayor and by the people of the entire city. His term of office is four years.

Duties of President of Board of Aldermen.

1. He serves as Mayor in case the latter is ill or absent from duty for some other reason.

2. Borough Presidents.

There are five borough presidents. Each is elected by his own borough.

The Borough President of Brooklyn is Mr. Steers.

Duties and Powers of Borough Presidents.

1. The Borough President has general charge of the affairs of his own borough.

2. He has charge of the public streets, sewers, bridges, tunnels, in his own borough.

3. He has general charge of the public buildings (except schools, penitentiaries, fire and police stations).

4. He regulates the construction and laying of surface railroads in his own borough.

5. He looks after the filling in and fencing of lots in his own borough.

6. He may at pleasure remove or appoint the Commissioner of Public Works and the Superintendent of Buildings in his own borough.

Fifth Week.

EXECUTIVE DEPARTMENT.

1. Executive Department consists of

a. The Mayor.

b. The heads of the fifteen administrative departments.

2. The Mayor.

The Mayor is elected by the people of the entire city for a term of years and receives an annual salary of $15,000.

The present Mayor is Wm. J. Gaynor.

3. Powers and Duties.

a. He must keep himself informed of the work of the different departments.

b. He must send a written message at least once a year to the Board of Aldermen giving a general statement of the finances, government and improvements of the city, and recommending such measures as he thinks proper.

Sixth Week.

3. The Mayor appoints the heads of the fifteen administrative departments, except the head of the Department of Finance and the Department of Education. He may also remove them if he deems it necessary.

4. The veto power of the Mayor.

All the by-laws and ordinances passed by the Board of Aldermen must be sent to the Mayor for his approval or rejection.

If he approves the bill, he must sign it and return it to the Board of Aldermen within ten days after receiving it.

If the Mayor disapproves the bill, he must return it within the time appointed with his written objections. This is the Mayor's veto.

Explain here how a bill may become a law over his veto by two-thirds of the city councilmen voting in its favor.

Seventh Week.

ADMINISTRATIVE DEPARTMENTS.

1. Department of Law.
2. Department of Finance.
3. Department of Health.
4. Department of Water Supply, Gas and Electricity.
5. Department of Street Cleaning.
6. Department of Bridges.
7. Department of Parks.
8. Department of Public Charities.
9. Department of Correction.
10. Department of Docks and Ferries.
11. Department of Taxes.
12. Department of Education.
13. Department of Health.
14. Tenement House Department.
15. Fire Department.

Each of these departments is headed by one or more commissioners appointed by the mayor (except finance and education).

Eighth Week.

DEPARTMENT OF FINANCE.

1. The head of this department is the Comptroller. He is elected by the people of the entire city at the same time as the Mayor and serves for four years.

Duties of the Comptroller:

1. He takes general charge of the financial affairs of the city.

2. He has the power to authorize the borrowing and payment of money for the city.

3. The accounts of the city departments are subject to his inspection and revision.

Ninth Week.

BOARD OF ESTIMATE AND APPORTIONMENT.

This Board is composed of

1. The Mayor.
2. The Comptroller.
3. The president of the Board of Aldermen.

4. The five borough presidents.

Duties:

1. To make up a budget or statement of the estimated expenses of the city as required by the different departments. This budget is submitted to the Board of Aldermen, and, when passed upon by that body, the budget becomes the legal amount to be raised within the city for purposes of local government.

Tenth Week.

BOARD OF EDUCATION.

It consists of 46 members appointed by the Mayor to serve for five years without pay.

Powers.

1. The board has the management and control of the public schools of the city.

2. It appoints

1 city superintendent.
8 associate superintendents.
26 district superintendents.

3. It has power to divide the city into 46 local school board districts.

Eleventh Week.

LOCAL SCHOOL BOARD.

Each Borough President appoints five members of a local school board for each school district within his borough. These five appointees, the member of the Board of Education living in the district and the district superintendent constitute a local school board for the district.

Have children name

City superintendent.
District superintendent.
School district.

Twelfth Week.

JUDICIAL DEJARTMENT.

The law-enforcing department.

The local courts of New York City include

1. City Court.

2. Court of General Sessions for New York County.

3. Court of Special Sessions and a municipal court for the whole city.

See Hoxie, pp. 66, 67, 68.

Thirteenth Week.

STATE DEPARTMENT.

The State constitution defines its powers.

The government is divided into three departments.

Legislative (law-making);
Executive (law-enforcing);
Judicial (law-interpreting).

Legislative department called the State Legislature. It consists of two houses:

1. The Senate.
2. The Assembly.

The Senate consists of 50 members elected every two years by districts and apportioned among the 51 senatorial districts of New York State.

The Assembly consists of 150 members, elected annually by districts apportioned among 69 counties of New York State.

The Legislature meets once a year on the first Wednesday in January. Each house has its separate meeting place or chamber in the State Capitol building in Albany.

The presiding officer of the Senate is the Lieutenant-Governor.

The Assembly elects one of its own members to preside over it. The one elected is called the speaker.

Fourteenth Week.

POWERS OF THE LEGISLATURE.

1. The legislature may enact any general law, applying to the people of the whole state, that is in accordance with

the constitution and laws of the United States and the State constitution.

2. It may repeal any law previously enacted.

3. It elects the two United States senators to represent New York State in the United States Senate.

4. It has the power to impeach or remove public officers found guilty of wrong-doing.

5. It has the power to reject a nomination to office made by the Governor.

Fifteenth Week.

EXECUTIVE DEPARTMENT OF THE STATE.

The executive department consists of:

1. The Governor.

2. Lieutenant-Governor.

3. Other State officers: Secretary of State, Treasurer, Comptroller, Attorney-General, State Engineer.

The Governor is elected by the people of the State to serve for two years. He receives an annual salary of $10,000.

Powers of Governor.

1 He has power to call together the State legislature in extraordinary session.

2. He must send a written message to the State legislature at every regular session of that body, describing the condition of the public business, and recommending the passage of such new laws as he deems necessary.

3. He may reprieve, pardon, or commute the sentence of a criminal convicted in the courts of the State, provided the criminal has not committeed a crime against the United States.

LIEUTENANT-GOVERNOR.

Elected at the same time as the Governor for two years. Salary, $5,000.

Powers.

1. Presiding officer of the Senate.

2. Takes the place of the Governor if the latter should die, be impeached, or otherwise be incapable of doing his work.

Qualifications of Governor and Lieutenant-Governor.

1. Must be at least 30 years of age.

2. Must have lived in the State at least five years previous to election.

3. Must hold but one public office at a time.

Sixteenth Week.

JUDICIAL DEPARTMENT OF THE STATE.

1. Purpose of the courts.

To adminster justice by granting open trial to all accused persons.

2. Rights of accused persons.

Every prisoner is presumed to be innocent until he is proved guilty. He is not obliged to answer any questions that will tend to prove his guilt.

3. Bail.

Instead of sending the prisoner to jail, the magistrate may place him in the keeping of his friends, on condition that they give a sufficient pledge of money or property for the prisoner's appearance in court at a future time to answer the charges against him.

4. The Judge.

The judge rules upon questions of law as they arise in the trial of the prisoner. At the close of the trial, the judge charges the jury, explaining the law governing the matter and reviewing any evidence which he thinks necessary to a clear understanding of the case.

Seventeenth Week.

THE JURY.

1. The Jury.

A trial jury consists of 12 men selected from among the people of the county where the crime is committed or triable.

The jurors are sworn to decide according to the evidence.

2. The jury hears the case presented by the district attorney against the person accused. The prisoner defends himself through his lawyer.

3. Service on jury.

Property owners between the ages of 21 and 70 years, citizens of the United States and residents of the county in which they are drawn to serve, are eligible to serve as jurors.

4. Witnesses.

All people who are supposed to know anything about the crime with which the prisoner is charged are sent a subpoena or written summons to appear in court as a witness. A person who does not obey a subpoena is punished by the court.

Eighteenth Week.

INSTITUTIONS.

1. Penal. Places where those who have been proved guilty of crime are committed.

Blackwell's Island.
Sing Sing Prison.
Auburn State Prison.
Houses of Correction.
Protectories and Reformatories.

2. Charitable Institutions.

Those in which the sick, poor and orphans are taken care of.

Hospitals—Bellevue, St. Mary's Hospital, Jewish Hospital of Brooklyn.
Orphan asylums.
Alms houses.

Nineteenth Week.

1. Suffrage.

Right of citizens of the United States to vote.

2. Kinds of citizens.

a. Native born.
b. Naturalized citizens.

Show that children (minors) have same rights as father.

That a woman follows the citizenship of her husband, etc.

Good citizenship means the duty of making the best use of opportunity for self-development and social service, of keeping informed on matters of public interest, and of registering and of voting at primaries and on election days.

6B MEMORY SELECTIONS.

By Ruth Tilly.

Prose, 40%; poetry, 60%.

SPRING TERM.

First Week.

REVIEW PATRIOTIC SELECTIONS.

1. "America."
2. "The Star Spangled Banner."

Second Week.

REVIEW PATRIOTIC SELECTIONS.

1. "Columbia, the Gem of the Ocean."
2. "Hail, Columbia!"
3. "The Battle Hymn of the Republic."

Third Week to Seventh Week Inclusive.

"THE BUILDERS." (9 stanzas, 4 lines each). Approved selections, p. 40. 2 stanzas each week.

Seventh Week, Finish and Review.

NOTE.—While but a portion of the poem is memorized each week the entire poem should be read at each recitation, so that there may be a unified concept of the *whole*. This plan must be followed for each selection.

Eighth and Ninth Weeks.

"THE LOVE OF BOOKS." (Prose Selection.)

According to division.*

Without the love of books the richest man is poor; but endowed with this treasure of treasures, the poorest man is rich.* He has wealth which no power can diminish, riches which are always increasing, possessions which the more he scatters the more they accumulate, friends who never desert him, and pleasures which never cloy.

—*John Alfred Langford.*

Tenth Week to Thirteenth Week Inclusive.

"THE YELLOW VIOLET." (8 Stanzas.)
Approved Selections, p. 10.
Two stanzas each week.

Fourteenth Week.

Review.

Fifteenth Week to Eighteenth Week Inclusive.

"OUR COUNTRY." (Prose Selection.) According to division.*

We cannot honor our country with too deep a reverence; we cannot love her with an affection too pure and fervent; we cannot serve her with an energy of purpose or a faithfulness of zeal too steadfast and ardent.* And what *is* our country? It is not the East, with her hills and her valleys, with her countless sails, and the rocky ramparts of her shores. It is not the North, with her thousand villages and her harvest-home, with her frontiers of the lakes and the ocean.* It is not the West, with her forest sea and her inland isles, with her luxuriant expanses, clothed in the verdant corn; with her beautiful Ohio, and her verdant Missouri.* Nor is it yet the South, opulent in the mimic snow of the cotton, in the rich plantations of the rustling cane, and in the golden robes of the rice field. What are these but the sister families of one greater, better, holier family, Our Country?*

—*Grimke.*

Harper's Fourth Reader, p. 182.

Nineteenth and Twentieth Weeks.

From "VANITY FAIR." (Prose Selection.) According to division.*

To lay down the pen and even think of that beautiful Rhineland makes one happy. At this time of summer evenings, the cows are trooping down from the hills, lowing, with their bells tinkling, to the old town with its moats, and gates, and spires, and chestnut trees, with long blue shadows stretching over the grass;* the sky and the river below flame in crimson and gold, and the moon is already out, looking pale towards the sunset. The sun sinks behind the great castle-crested mountains, the night falls suddenly, the river grows darker and darker, lights quiver in it from the windows of the old ramparts, and twinkle peacefully in the villages under the hills on the opposite shore.*

—*William M. Thackeray.*

From Georgia Alexander Spelling Book.

FALL TERM.

First Week.

REVIEW. PATRIOTIC SELECTIONS.

1. America.
2. The Star Spangled Banner.

Second Week.

REVIEW. PATRIOTIC SELECTIONS.

1. Columbia, the Gem of the Ocean.
2. Hail, Columbia!
3. The Battle Hymn of the Republic.

Third and Fourth Weeks.

"WINTER SUNSHINE." (Prose Selection.) According to division.*

The apple is the commonest and yet the most varied and beautiful of fruits. A dish of them is as becoming to the center table in winter as was a vase of flowers in summer—a bouquet of spitzenbergs and greenings and northern spies. A rose when it blooms, the apple is a rose when it ripens.* It pleases every sense to which it can be addressed, the touch, the smell, the sight, the taste; and when it falls in the still October days it pleases the ear. It is a call to a banquet; it is a signal that the feast is ready. The bough would fain hold it, but it can now assert its independence; it can now live a life of its own..

—*John Burroughs.*

Georgia Alexander Spelling Book.

Fifth Week, Through Fourteenth Week.

"THE WHITE-FOOTED DEER." (18 stanzas, 4 lines each.) Two stanzas a week.

Fourteenth week, review whole poem.

Fifteenth Week, Through Eighteenth Week.

"OUR COUNTRY." (Prose Selection.) According to division.*

See Spring Plan.

Nineteenth and Twentieth Weeks.

From "VANITY FAIR." (Prose Selection.) According to division.*

See Spring Plan.

6B SPELLING.

By Edith M. Matthews.

1. business
2. vegetable
3. bicycle
4. stenographer
5. auction
6. theatre
7. academy
8. excursion
9. design
10. handkerchief
11. Danube
12. Caucasus
13. Pyrenees
14. Apennines
15. Ural
16. Balkan
17. Carpathian
18. Rhine
19. Dwina
20. Dnieper
21. muscles
22. celery
23. symptom
24. diagnosis
25. carriage
26. agency
27. employment
28. military
29. parade
30. pulse
31. diet
32. remedy
33. surgeon
34. leisure
35. strength
36. perjury
37. prescription
38. variety
39. audience
40. champion
41. patient
42. chimney
43. weather
44. asylum
45. orphan
46. tedious
47. Europe
48. Baltic
49. Caspian
50. Corsica
51. Sardinia
52. Sicily
53. Adriatic
54. ache
55. receive
56. conscience
57. tonic
58. height
59. principal
60. particle
61. millinery
62. type
63. social
64. disease
65. marine
66. compromise
67. feminine
68. masculine
69. neuter
70. singular
71. plural
72. nominative
73. possessive
74. objective
75. inhabitants
76. magnificent
77. government
78. sovereign
79. instruction
80. remembrance
81. irregular
82. opinion
83. zealous
84. doctrine
85. disquieted
86. oft repeated
87. resolutely
88. affectionately
89. memorable
90. epidemic
91. plague
92. quarantine
93. contagious
94. legislature
95. hygiene
96. tariff
97. protective
98. modified
99. analysis
100. analyze
101. Theseus
102. chapter
103. canal
104. anchor

105. belt
106. mortgage
107. delicatessen
108. cartoonist
109. regiment
110. immense
111. circus
112. vinegar
113. wrestling
114. niece
115. nephew
116. bungalow
117. seashore
118. skein
119. camera
120. employee
121. benefit
122. apology
123. repairs
124. spacious
125. tropical
126. nullification
127. chariot
128. witchcraft
129. visiting
130. dialogue
131. hospitality
138. treacherous
139. condemn
140. treasury.
141. unintentionally
142. abominable
143. ponderous
144. ambition
145. affection
146. lamentable
147. anniversary
148. Minotaur
149. venerable
150. calamity
151. prodigious
152. recognize
153. recognition
154. quorum
155. nullify
156. nullification
157. carriage
158. character
159. cough
160. thorough
161. through
162. dough
163. handkerchief
164. curiously
165. usually
166. peasant
167. business
168. stationery
169. against
170. secede
171. tier
172. approved
173. segregation
174. medical
175. disease
176. tuberculosis
177. precaution
178. solutions
179. vaccinated
180. equipped
181. ceiling
182. anchor
183. prevention
184. improvement
185. society
186. hospitals
187. column
188. receive
189. Mediterranean
190. steerage
191. transferred
192. mitigate
193. sanitary
194. physician
196. agriculture
197. porcelain
198. lacquer
199. conveniently
200. spectacle
201. countenance
202. circumstance
203. enchantress
204. Margaret
205. Helen
206. Russell
207. respiration
208. description
209. innumerable
210. portfolio
211. positive
212. comparative
214. superlative
215. cathedral
216. humorous
217. immeasurable
218. merriment
219. tremendous
220. strategy
221. illumination
222. astonishment
223. vagabond
224. discourteous
225. antagonist
226. miscreant
227. accumulated
229. Gadsden
230. unavenged
231. obstreperous
232. combustible
233. conflagration
234. corridor
236. liquid
237. liquefy
238. icicle
239. neuralgia
240. legible
241. knowledge
242. bachelor
243. alcohol
244. victuals
245. whooping cough
246. improvement
247. righteous
248. gymnasium
249. gymnastics
250. millinery
251. fascinate
252. embarrass
253. sincerely
254. truly
255. prophet
256. scythe
257. principal
258. sulphur
259. sufficient
260. continue
261. mystery
262. mysterious
263. ridiculous
264. satisfaction
265. equitable
266. attendance
267. experiment
268. military
269. suspicious
270. suppose
271. surprise
272. Germany
273. Europe
274. boundaries
275. position
276. exaggerate
277. advantage
279. surrounded
280. Hamburg
281. population
282. drainage
283. petroleum
284. Great Britain
285. previous
286. endeavor
287. schedule
288. scheme
289. artillery
290. exhausted
291. peculiar
292. nowhere
293. strength
294. traveling
295. enthusiasm
296. perilous
297. column
298. pursued
299. courage

300. cabinet
301. accomplished
302. guilty
303. accused
304. criticism
305. financial
306. kidnapped
307. attorney
308. burglar
309. committed
310. subpoena
311. trustees
312. citizens
313. prostrated
314. infamous
315. assassination
316. regiment
317. murderer
318. imminent
319. skirmish
320. executive
321. monopolists
322. inauguration
323. chromatic
324. officials
326. inauguration
327. revenue
328. millionaire
329. franchise
330. appraised
331. imitated
332. legibility
333. dictionary
334. poetry
335. current
336. chief
338. hygiene
339. textiles
340. democracy
341. telephone
342. application
343. military
344. incident
345. disease
346. epidemic
347. restaurant
348. quarantine
350. ambulance
351. contagious
352. transmitted
353. organism
354. leprosy
355. typhoid
356. cholera
357. diphtheria
358. autograph
359. adversary
360. conveyance
361. convalescent
362. steppes
363. independent
364. separation
365. glacial
366. monarchy
367. foreign
368. commercial
369. intelligent
370. catastrophe
371. isolated
372. marvelous
373. mythology
374. altitude
375. assassination
376. realm
377. tobacco
378. discount
379. successive
380. prevention
381. individual
382. vaccination
383. vaccine
384. municipal
385. bisect
386. segregation
387. perimeter
388. Petchora
389. absolutely
390. appeal
391. wholesome
392. volume
393. exciting
394. promptly
395. included
396. method
397. money order
398. preferred
399. accepted
400. preface
401. besieging
402. celebration
403. patriotic
404. existence
405. believe
406. crisis
407. various
408. conscientious
409. terrible
410. invented
411. dissected
412. wheel
413. possibility
414. novelty
415. lesser
416. frenzy
417. provincial
418. court-martials
420. evidence
421. coronation
422. emperor
423. magnificent
424. democratic
426. imperial
426. brilliant
427. gorgeous
428. attire
429. situated
430. descendants
431. studded

6B COMPOSITION.

Tentative Plan.

The work of this grade must include oral and written reproductions of lessons of the grade, such as geography, history, literature, sewing, drawing, civics, ethical lessons; reports of current events, home study, libraries read; descriptions of persons, pictures, places, objects, scenes; inventions, including imaginary biographies of inanimate objects, such as coins, pencils, imaginary journeys, imaginary conversations, etc.; study of model compositions, development of topical outlines; study of paragraphing; and perhaps the most practical of all, letter writing.

Though no particular mention may be made of oral composition, it is understood that much oral practice should precede most written work Occasionally, a topic may be given upon which pupils must write without formal preparation. Most of the pupil's composition,

after he leaves school, will of course be demanded of him without time for deliberation, and training in writing should aim to give him independence.

First Week.

1. CHARLES DICKENS AND HIS WORK.

Outline: Childhood, Pleasures, Studies, First trials, Fame, Many books, Visits to America, Friends, His good work.

2. REPLY TO AN ADVERTISEMENT.

Suggestion:

564 Front Street,
B——, Feb. 4, 1912.

Mr. H. I. Stone,
468 L Street, New York City.

My dear Sir:

Seeing your advertisement in to-day's "Star," in which you state that you want a boy of fourteen, willing, obedient, and intelligent, to help in your carpenter shop, and to learn the trade, I beg leave to apply for the position.

I must leave school, as I am the oldest and my mother needs my help.

Please grant me a trial. I will endeavor to give satisfaction.

My school record is good, and I have a recommendation from my principal.

Awaiting a favorable reply, I am

Respectfully yours,

Second Week.

1. IMITATION OF MODEL DESCRIPTION.

Ulysses among the Phaeacians. 348-355. Ulysses, The Storm.

Account of last snow storm. (Substitute Boreas for Neptune.)

2. LETTER.

Letter to country cousin, describing school life in the city, and telling about the new class. Hours, building, classroom, teacher, fire drill, assembly, visitors, athletics, home studies.

Third Week.

1. MODEL COMPOSITION.

Description of Scrooge or Scrooge's Niece. (Oh....Christmas. She..... satisfactory.)

Description of William Cullen Bryant.

The above models are given so that the pupils may not fall into the habit of enumerating hair, eyes, etc., but read the character from the pictured face.

2. A BIRD'S LETTER.

Not sent by post, but found wrapped round an orange, or crumpled between two bananas, or written on a lettuce leaf, etc. Asking for information about the weather, and whether it will be wise to fly north very soon.

2. IMITATION OF MODEL DESCRIPTION.

Ulysses' Struggle and Rescue: Phaeacians. Ll. 374, 390.

Rescue from Fire.

Fourth Week

1. REPLY.

Reply to bird's letter, with description of the weather, the snow, the bare trees, the chilly sun, and a warning to remain south a while longer.

2. FEBRUARY'S BOAST OF GREAT BIRTHDAYS.

Statesmen, poets, musicians, etc.

Fifth Week.

1. LETTER TO TEACHER.

Actual letter to the teacher, stating difficulties in studies, and asking for

special help during study hour or after school. (To be written without preparation.)

2. THE ERIE CANAL.

From topical outlines after consulting several histories.

Sixth Week.

1. CONVERSATIONS: JACK FROST AND THE SUN.

2. LETTER TO TOURIST BUREAU.

Contemplate taking a trip. Where you wish to go. Length of time of trip. Amount you can pay. Ask for booklets of information.

Seventh Week.

1. IMAGINARY LETTER.

Imaginary letter from London, Paris, Vienna or Berlin, to mother at home; topical outlines. (Carpenter's Europe.)

2. REPORT OF HOME READING.

One Tanglewood Tale. Brief account.

Eighth Week.

1. ACCOUNT OF VISIT TO FACTORY.

Hat, shoe, sugar, etc.

2. LETTER OF THANKS.

Letter of thanks to superintendent of factory visited, with statement of benefit and pleasure received.

Ninth Week.

1. LETTER.

Letter to some noted citizen in Brownsville to ask his influence toward obtaining a playground for the children.

Arguments: Where the children play. Dangers. The value of such a playground.

2. DESCRIPTION: SIGNS OF SPRING.

(a) In the country. (b) In the city. Discussion in class. Topical outlines.

Tenth Week.

1. DIARY OF A WEEK'S DOINGS. (Vacation Week.)

2. THE RHINE RIVER IN HISTORY. (Caesar, Feudal Times, Napoleon, etc.)

Illustrate by sketch of castle; quotations from the poets; picture mounted; map of country, etc.

Eleventh Week.

1. FORMAL INVITATION. ACCEPTANCE. REFUSAL.

2. OUTDOOR SPORTS AND ATHLETIC CONTESTS.

Discussion in class.

Twelfth Week.

1. ABSTRACT OF LIBRARY BOOK READ.

Title, author, locality, time, plan, characters, one thrilling incident, pleasure or profit gained by reading the book.

2. LETTER TO TEACHER.

Letter to teacher requesting to do home work in school after three o'clock, with reasons, or letter to teacher requesting her aid in forming a class club for debating purposes.

Thirteenth Week.

1. DESCRIPTION OF PICTURE.

Song of the Lark, Ploughing, The Sower, Changing Pasture.

The painter, country, study of subject, right moment, absence of detail, simple, why the picture gives pleasure.

2. LETTER.

Letter to cousin in another borough, inviting him to spend the next holiday with you. Give directions about how to reach you. You have just moved and cousin has never been to the new home.

Sketch a brief plan of what you hope to do for entertainment on that day.

Fourteenth Week.

1. STUDY OF THE PARAGRAPH.

Ethical lessons through anecdotes.

1. Bravery.
2. Perseverance.
3. Loyalty.
4. Obedience, etc.

2. CONVERSATION BETWEEN A BOY AND A SQUIRREL.

The squirrel has jumped up beside the boy and has asked for peanuts.

Fifteenth Week.

1. AN ORIGINAL FAIRY STORY.

Children must read An Arabian Night's Tale, Gulliver Among Lilliputians, Alice's Adventures, A Tanglewood Tale.

(If too difficult, imitate a fable.)

2. LETTER DESCRIBING BABY'S NARROW ESCAPE.

Sixteenth Week.

1. STUDY OF PARAGRAPHS.

The year's holidays, and what they mean.

2. CONDENSING MESSAGE INTO TELEGRAM.

Seventeenth Week.

1. A TRIP I SHOULD LIKE TO TAKE.
2. THANKS FOR GIFTS.

Eighteenth Week.

1. STORY OF ULYSSES LED INTO PHAEACIA BY PALLAS.
2. WHAT OUR FLAG CAN DO FOR US.

Nineteenth Week.

1. STORY.

Story composed, using several words designated; e. g., picnic, woods, fire, leaves, lunch, games, trolley car, flowers, warm, cool.

2. A SUMMER STORM.

Read model (2d week) again.

(Described in a letter to a friend.)

Twentieth Week.

1. LETTER.

Letter to principal stating sudden departure for distant city. Wishes transfer card. State facts.

2. MOUNT THREE INTERESTING PICTURES.

Weave a story about them.

(Pictures well placed on page.)

The subject of composition is so broad and the wealth of material so vast, it is difficult to make a choice of subjects that will have interest and at the same time educative value.

While one may plan and plan before the time, it may so happen that at the last moment, plans must be set aside because something of more immediate interest has happened, the pupil is bursting to speak and write of it. The wise teacher will certainly let him.

The plans submitted are therefore suggestive only. Better ones may confront the teacher. She (or he) must act upon the inspiration of the moment.

On the other hand there are certain social formalities in letter writing which a pupil will immediately need. These he must be taught, even to the use of correct stationery. For such teaching he will later rise up and call his teacher blessed.

6B GEOGRAPHY.

By Ruth Tilly.

First Week.

EUROPE AS A WHOLE.

I. LOCATION. (Facts supplied from study of map by pupils.

North of Africa.
West of Asia.
Atlantic Ocean on west.
Arctic Ocean on north.
Mediterranean Sea on south.
Asia on east.

From 2000 to 3000 miles from North America.

In northwestern part of eastern hemisphere.

II. LATITUDE. Between 35°-75° North Latitude.

LONGITUDE. Between 10° West, 65° East Longitude.

III. BOUNDARIES.

IV. BOUNDING WATERS.

Arctic Ocean, White Sea, Atlantic Ocean, North Sea, Baltic Sea, Gulf of Bothnia, Gulf of Finland, English Channel, Strait of Dover, Bay of Biscay, Strait of Gibraltar, Mediterranean Sea, Adriatic Sea, Aegean Sea, Dardanelles, Sea of Marmora, Black Sea, Sea of Azof, Caspian Sea, and Bosporus.

V. ZONES. North Frigid and North Temperate.

It is almost wholly in the temperate zone, and largely in the belt of the prevailing westerlies.

VI. COASTLINE. Compare with United States.

VII. SIZE. (Area).

Fifth grand division in size. 2/5 size of North America.

About same size as United States.

VIII. POPULATION.

About four times as many people as in United States.

IX. LARGE ISLANDS.

ICELAND belonging to Denmark.
BRITISH ISLES (Divisions).
CORSICA belonging to France.
SARDINIA and SICILY to Italy.

X. MOUNTAINS.

CAUCASUS, highest. (Mt. Elbruz, highest mt. peak of Europe).
ALPS, second highest (Mt. Blanc).
PYRENNES, APENNINES, CARPATHIAN, BALKAN.
URAL, KIOLEN (Scandinavian Mt.), low.

Compare mountains of Europe with those of United States as to height and direction or trend.

XI. PENINSULAS. Definition.

SCANDINAVIAN, Norway and Sweden.
JUTLAND, Denmark.
IBERIAN, Spain and Portugal.
ITALIAN, Italy.
BALKAN, Greece and Turkey.
CRIMEAN, Crimea.

XII. COUNTRIES IN ORDER OF AREA.

Third Week.

EUROPE IS THE MOST IMPORTANT OF THE CONTINENTS.

Reasons.

Europeans have been for many centuries the world's greatest explorers, colonizers, and conquerors.

Europeans have been and are the greatest manufacturers and traders.

Their merchant fleets carry the world's commerce.

Their colleges and schools are the most advanced in the world.

Their armies are the best in the world.

Their navies are the strongest.

The trade of South America, Asia and Africa is in European hands.

The railroads, street railways, mines, ocean traffic, merchant fleets, banks, and in fact almost every agency of trade and transportation throughout the world, have been developed and financed by Europeans. Americans,

however, have been taking an increasing part in these affairs. .

SIGNIFICANT FACTS OF THE GEOGRAPHY OF EUROPE AS A WHOLE.

I. *It is the smallest of the grand divisions, except Australia.*

Asia has nearly five times the area of Europe. Tarr & McMurry, p. 159.

The entire population of Europe does not equal that of China Proper.

United States is nearly as large as all Europe.

Yet Europe has dominated the world.

II. *It is the farthest north of the continents.* P. 77.

Asia nearly touches the equator.

North America passes well into the torrid zone.

III. *It has a mild and invigorating climate.* It is cold enough to give snap and energy to the people, yet warm enough for open rivers, and open ports most all the year; varied enough to produce nearly everything.

This rare condition is provided by the prevailing westerlies which, warmed by the warm waters of the North American Drift, blow across Central Europe, unobstructed by any high mountain range. (Bring warmth and moisture).

IV. *No other continent has such a large proportion of productive lands.*

There are no deserts, no jungles, and there is comparatively little useless land.

Rain falls everywhere. In only a part of Spain and a small part of Russia is the rainfall insufficient for profitable agriculture.

The rain-laden westerlies, the favorable distribution of mountains, and the great extent of coastline account for the abundant rainfall.

Nearly as much land is cultivated in all Europe as in all Asia.

Most of the land is occupied by a resident population, well distributed.

Most of the European nations are great food producers; nevertheless the Europeans are the largest importers of food stuffs.

Fourth Week.

V. *Europe has by far the greatest amount of coastline in proportion to its area of any of the continents.*

Its numerous bays, fiords, drowned river mouths and other arms of the ocean give it a coastline of not less than 40,000 miles.

Outside of Russia there is no region removed from the sea by more than 400 miles.

International trade is the greatest civilizing agency. A nation progresses largely in proportion to its opportunities for gathering ideas from other nations.

The landlocked seas and countless harbors of Europe have always invited commerce.

VI. *Rivers of Europe.*

It has many harbor-mouthed, navigable rivers flowing into seas free from ice the year around. .

Many of them are fed by Alpine snows and glaciers, never failing even in the driest summer.

The large slow-flowing rivers of Russia are great highways of trade.

The Clyde River leads the world in shipbuilding. P. 172.

The Thames, with 16,000,000 tons of foreign commerce annually, has no equal in this respect. P. 172.

The beautiful and historic Rhine is the mighty artery of the German commerce.. Its valley is one of the busiest industrial regions of Europe.

The Seine admits ships of ten feet draught as far as Paris, making that city the chief seaport of France.

The Danube is navigable from the German boundary to the Black Sea.

On the estuary (wide lower part of a tidal river), of the Elbe is Hamburg, the chief seaport of Continental Europe, and one of the greatest in the world.

VII. *Europe has wonderfully rich and varied mineral deposits.*

Coal and iron, the most important, are widely distributed. It is this fact that has enabled European nations to become the world's manufacturers and at the same time to feed their people by exchanging manufactures for food stuffs and raw materials with less highly developed races.

VIII. *The great indentations of the coast (due to the sinking of the land, and rising of the land), and the scattered mountain ranges cut Europe into many nations.*

IX. *Europe occupies a most favorable central position among the continents.*

Europe nearly touches Africa, does touch Asia, and lies near to America—of great advantage to Europe for commercial purposes.

PROCESSES WHICH PRODUCED IRREGULAR COAST.

I. Uplifting of the scattered mountain ranges, producing many peninsulas.

II. Subsequent sinking of the coast lands.

III. The erosive action of water and glaciers, producing fiorded coasts.

Fifth Week.

THE UNITED KINGDOM (British Isles).

I. LOCATION. A little north and west of continent of Europe.

Was once part of the continent and detached by the sinking of the land.

Lies between 50° and 61° north latitude.

Is in northern half or north temperate zone, and in belt of prevailing westerlies. P. 77.

British Isles in same latitude as Labrador.

II. ADJACENT WATERS.

North Sea, Strait of Dover, English Channel, Irish Sea, Atlantic Ocean.

III. COASTLINE.

Very irregular, due to sinking of land.
Islands, crests of former hills.
Bays, harbors, submerged valleys.

IV. HARBORS. More good harbors on west coast than on east.

V. SIZE. British Isles (including England, Wales, Scotland, Ireland, and several hundred islands), is not much larger than State of Colorado.

VI. POPULATION. About half population of United States.

VII. DIVISIONS. England, Ireland, Scotland, Wales.

VIII. ISLANDS. Isle of Man in Irish Sea, Hebrides, Orkney, Shetland Islands.

IX. MOUNTAINS.

Highlands of Scotland, p. 178.

Few people live there—rugged and barren. The Highlands are low, old, worn, very low, like the mountains of New England.

Cheviot Hills—sheep raised there.
Pennine Chain—yields coral and iron.
Welsh Mountains.

X. SURFACE.

Most of Scotland is mountainous. Southern part is less so, called the Lowlands.

Northern England has low mountains. The Pennine Chain is important because it yields so much coal and iron. The southern half of England is a plain.

Wales is mountainous and many parts are isolated.

Ireland is diversified with many swamps and low areas.

XI. CLIMATE. (Dense fogs).

Though so far north, the larger part of the United Kingdom has mild winters and cool summers, due to the influence of the prevailing westerlies. (Warm moist winds).

XII. RAINFALL.

The prevailing westerlies carry an abundance of moisture—no section suffers for want of rain.

Western portions receive more rain than eastern, because the ocean winds visit them first.

XIII. RIVERS. Thames, Clyde, Severn, Mersey. P. 193.

XIV. LAKES. Great number of beautiful lakes in Ireland, Scotland, and northern England. They are practically all due to the action of ancient glaciers.

Sixth Week.

INDUSTRIES OF THE UNITED KINGDOM.

I. AGRICULTURE. Oats, barley, wheat, turnips, potatoes, beans, peas, hops, (manuf. of beer), flax (Ireland).

II. GRAZING. Cattle, sheep, (wool), horses (eastern part). Mild winters and damp atmosphere encourage growth of grass.

III. FISHING. (North Sea), cod, haddock, herring, salmon, (rivers of north), oysters (southern coast).

Centers—London, Hull, Grimsley, Aberdeen, (Scotland).

IV. MINING.

Tin—Southwestern England.

Coal, iron ore.

V. MANUFACTURING.

1. Cotton goods. Center—Manchester.

2. Iron and steel manufacturing.

Centers—Birmingham, Sheffield, Glasgow.

3. Woolen goods. Center—Leeds.

GENERAL FACTS FOR EMPHASIS.

I. *Great Britain is the most widely extended Empire that ever existed on the earth.*

She has more colonies than any other nation.

Her territory includes 1/5 of the land of the globe and 1/4 the inhabitants.

POSSESSIONS.

Canada in North America.
British Guiana in South America.
India in Asia.
British East Africa.
British South Africa.
Australia.
New Zealand.
Tasmania.
Gibraltar.
Many islands in every ocean.

She has obtained these possessions by war and by exploration.

II. *Great Britain has the greatest foreign trade of any country.*

Greatest amount of trade with

1. Her colonies.
2. United States.

III. *She surpasses all other nations in number of merchant fleets.*

Necessity of merchant fleets—cut off from other nations by the sea—not

enough food raised to supply all the population (40,000,000 people living on these two small islands).

Import flour, meat, sugar, coffee, etc.

Export manufactured goods.

More than 1,000 ships enter harbors of British Isles daily.

The British flag is familiar in every port.

Her ships carry not only her own great commerce, but ours, and a major part of that of all other trading nations.

Why they need such a large number of vessels.

1. Trade is profitable.

2. They own their own vessels; can send them where they wish, and be independent in case of war.

IV. *She surpasses all other nations in number of warships.*

Navy better for British Isles than standing army. Why?

She is mistress of the seas and intends to remain so. The life of her Empire demands it.

Her naval stations occupy the strategic points all over the earth

V. *The United Kingdom is the second greatest manufacturing nation, and the greatest exporter of manufactured goods in the world.*

Seventh Week.

WHY BRITISH ISLES IS SUCH A GREAT COUNTRY.

I. *Nearness to sea. Developed a seafaring people. No point is more than 70 miles from the sea.*

II. *Large number of colonies.*

III. *Extensive commerce, splendid government, education.*

IV. *Large and serviceable navy.*

V. *The energy, genius, self-governing, mechanical instincts of her people.*

VI. *Great supply of coal and iron led to development of manufacturing.*

VII. *Supply of raw materials—wool, iron, coal.*

GOVERNMENT OF UNITED KINGDOM.

I. Form. Limited monarchy. (Government of great freedom).

II. Present Ruler. George V.

III. Law-making Body. Parliament.

1. House of Lords—position hereditary.

2. House of Commons. Elected by people. People are able to make their own laws through them.

IV. Executive Department.

King—executive only by name.

Execution of laws really in charge of a Cabinet composed of Prime Ministers and other ministers, who are responsible for their actions to the House of Commons.

The government is highly satisfactory.

Why her colonies do not separate from her.

1. Pleased with government.
2. She affords her colonies protection.
3. They trade with her.

IRELAND (Emerald Isle).

SIZE. Almost as large as Maine.

SURFACE. Level; many lakes and swamps.

SOIL. Fertile; large quantities of flax and potatoes. Farms formerly held by landlords are being purchased by tenants. Farming a leading industry.

SCOTLAND.

SURFACE. Make hand like a cup, imagine it is Scotland.

Lowland districts contain more than half people of Scotland and all the large cities and villages.

Lowlands, coal, iron, manufacturing includes foundries, shipbuilding, cotton and woolen goods.

Why England is such an important manufacturing country.

1. It has many railroads, canals, and good seaports, so it costs but little to send goods on the ships, which are to take them off.

2. English are rich, so have plenty of money to build factories.

3. They are a thrifty people, and skilled in handling tools and machinery.

4. They have richest coal fields of Europe, and their coal fields are near the sea.

5. Chief factories right in coal fields. Cheaper to use coal where it is mined.

6. Freight rates are so low, that factories are found almost everywhere.

Eighth Week.

CITIES. Cities of England, Scotland and Wales.

Location—why important.

CITIES OF ENGLAND.

1. London.

Capital of England.

Largest city in world.

Greatest shipping point and commercial port of world.

Center of publication of books and magazines.

Is a great money center.

2. Liverpool. Leads in trade with United States. .

3. Manchester. Center for the manufacture of cotton goods.

4. Birmingham. Noted for its iron and steel products.

5. Sheffield. Like Birmingham.

6. Bradford. Noted for manufacture of broadcloth.

7. Leeds. Center of woolen manufacture.

CITIES OF SCOTLAND.

1. Glasgow.

Leading shipping port of Scotland.

Noted for shipbuilding.

2. Edinburgh.

Capital of Scotland.

One of the most beautiful cities of British Isles.

Contains well-known University of Edinburgh.

CITIES OF IRELAND.

1. Dublin.

Capital and largest city of Ireland.

Ships farm products and other products to England; receives manufactured goods in return.

2. Belfast.

Noted for shipbuilding.

Linen factories.

Ninth Week.

GERMAN EMPIRE.

I. LOCATION. Centrally located in Western Europe between France, Austria and Russia.

Latitude and longitude.

II. ADVANTAGES OF HER POSITION.

One-tenth of her boundary is water.

Her frontier comes in contact with seven independent countries. Name them.

Most of the markets of the continent are at her very doors.

Because of her railways, Germany's central position is superior to that of England for European trade.

III. Bordering Waters and Countries.

IV. Size. (Area).

Little larger than France.
Twice size of Colorado.
Almost twice size of British Isles.

V. Population.

Over 100 times as many people as Colorado.

17,000 more than in France.

More than in British Isles.

VI. Surface. Consists of two different parts.

Southern—mainly mountainous.

Northern—a lowland, broadening toward the east until it merges into the plains of Russia.

VII. Rivers. Rhine, Elbe, Danube. Rhine and Hudson compared.

VIII. Rainfall. More in west than in east. Why?

IX. Climate.

Warmer in western than in eastern part.

North Sea is almost free from ice, while Baltic ports are frozen for a time, hindering trade.

X. Forests of Germany. Care for trees.

XI. Industries.

A. Agriculture. Leading industry.

1. Rye ranks first—used in making black bread.

2. Potatoes—in north.

3. Sugar beets—raised extensively in Central Germany. Germany produces one-eighth of sugar of world.

4. Hops, tobacco, grapes, mulberry trees (along Rhine and valleys of south).

5. Hay, oats, barley (north).

B. Stock Raising.

1. Cattle (ranks second to Russia) north.

2. Horses in north..

3. Sheep in drier eastern section.

C. Mining. (Ranks next to British Isles).

1. Coal and iron found close together.

2. Zinc. Germany and Belgium together produce more than all the rest of world.

3. Silver—nearly half obtained in all Europe is found in Germany.

4. Salt, lead, copper.

D. Manufacturing. (Ranks third as a manufacturing nation. (1) United States. (2) Great Britain, (3) Germany).

1. Textile manufactures — cotton, wool, silk.

2. Manufacture of iron.

3. Manufacture of furniture (forests).

4. Manufacture of dyestuffs from mineral products.

5. Manufacture of spirituous liquors.

Beer (barley, hops).
Wine (grapes).

6. Manufacture of sugar from sugar beet.

XII. Exports. Sugar, cotton and woolen manufactures, iron goods, machinery.

XIII. Imports. Cereals, wool, cotton, oil.

XIV. CAUSES OF GERMANY'S RAPID ADVANCE IN POPULATION AND WEALTH.

1. Strong government.

2. Educational advantages, encouragement of sciences.

3. Scientific work.

Sugar industry.

Mines, factories.

Excellent machinery.

4. People are prosperous.. Learn to save money, even on a small income..

5. Tunnels through Alps. (Communication with Mediterranean).

XV. COLONIES.

Part of New Guinea (north of Australia).

German East Africa.

German Southwest Africa.

Tenth Week.

XVI. GOVERNMENT. Constitutional monarchy.

The German Empire is a union into a single government of a number of states and cities which manage their local affairs.

The largest and most powerful State is Prussia, whose King is the German Emperor, or Kaiser.

The Legislature of the Empire is called the Reichstag. Members elected by people.

The government requires every able-bodied man to serve from one to three years in the army. This gives Germany a very large and efficient body of trained military men.

XVII. CITIES OF GERMANY.

1. Berlin.

Capital and largest city.

Chief railroad and manufacturing center.

Population, one-half of New York City.

2. Hamburg.

Second largest city of Germany.

Most important seaport on continental Europe.

3. Cologne (on Rhine).

Largest city in manufacturing section.

Railroad center.

Contains the famous Cologne Cathedral.

4. Munich.

Third city in size..

An important railroad center.

Controls commerce between northern Germany and the Adriatic Sea.

5. Leipzig.

Fourth largest city.

A railroad center.

Center for German book trade.

Eleventh Week.

FRANCE.

I. LOCATION.

Western part of Europe.

Latitude and longitude.

II.. BORDERING WATERS AND COUNTRIES.

III. SURFACE.

Pyrenees Mts., Alps (Mt. Blanc in France).

Highlands in south and southeast.

Three-fourths of France is a level plain slanting westward.

IV. CLIMATE.

Summers are warmer than in England, because it lies entirely south of England. Less under influence of ocean.

Southeastern portion a semi-tropical climate (warm Mediterranean waters). Protected from cold north winds by Alps.

V. RAINFALL. Distributed evenly throughout the country (prevailing westerlies).

VI. RIVERS. Seine, Soire, Rhone. Sources near together. Upper courses connected by canals—greatly help trade in interior of France.

VII. AREA.

Greater than British Isles.

Little smaller than Germany.

VIII. POPULATION 38,000,000. Less than British Isles.

IX. INDUSTRIES.

1. Agriculture.

a. Wheat—most important grain—occupies ¼ of cultivated soil.

b. Oats, rye, barley.

c. Sugar beets (north), making of raw sugar and alcohol.

d. Grapes, in central and southern France.

Greatest grape-raising and wine-producing country of world.

e. Mulberry trees (silk worm), olives, oranges. (Mediterranean coast, Rhone Valley).

2. Grazing. Horses in north.

More sheep raised in France than in England.

3. Mining.

a. Coal and iron beds—close to Belgium. (France has to import coal).

b. Clay, building stones.

4. Manufacturing. Ranks fourth among manufacturing nations of world. (1) United States, (2) British Isles, (3) Germany, (4) France.

a. Silk. Leading nation of world in manufacture of silk.

b. Wine. Greatest wine-producing country.

c. Iron, steel.

d. Metal.

e. Cotton and woolen goods.

f. China.

X. COMMERCE.

Railways, rivers, canals, Atlantic Ocean, Mediterranean Sea.

One-half trade of France is with British Isles.

XI. EXPORTS. Goods of artistic value, wine, cotton and woolen goods, silks.

XII. IMPORTS. Food products and raw materials for manufacture.

From British Isles, wool, coal.

From United States, cotton, petroleum, meats, cereals.

Twelfth Week.

XIII. COLONIES OF FRANCE.

In Africa.

1. Algeria, Tunis.

2. Sahara Desert, the Sudan.

3. Madagascar.

In South America.

4. French Guiana.

In Asia.

5. Indo-China.

6. Corsica (island).

XIV. COMMERCE OF FRANCE. One-half trade with British Isles.

a. Notwithstanding rivers, canals, railways, and extensive foreign trade, France is not so great a commercial nation as British Isles. Why? Because of (1) small number of good harbors, and (2) destructive wars during last century.

b. Has only 1/10 as many merchant ships as British Isles and 3/5 as many as Norway. She depends upon these two countries to carry her goods.

XV. GOVERNMENT.

A republic, somewhat like United States.

Supreme power as in British Isles is with the law-making branch which elects the President and controls the executive branch.

XVI. CITIES OF FRANCE.

1. Paris.

Capital, largest city on continent of Europe.

One of the most magnificent cities of world.

Railroad center.

2. Havre.

Second and most important seaport of France.

3. Lyons.

Noted for manufacture of silks.

4. Marseilles.

Leading seaport of France.

Thirteenth Week.

RUSSIA.

(One of the six great powers).

I. LOCATION. Eastern part of Europe. Latitude and longitude.

II. BOUNDARIES. Bordering waters and countries.

III. SIZE. Largest country of Europe. Latitude and longitude. countries together).

Russian Empire (including Siberia in Asia) occupies about 1/6 of all land of globe.

Russia alone, about forty times size of New York State,. little smaller than United States.

IV. DEVELOPMENT OF RUSSIA HINDERED BY LACK OF GOOD HARBORS (differs from United States, although sea forms a large portion of the boundary).

Archangel, principal port on White Sea, icebound for nine months.

Baltic ports, icebound for four or five months each year.

Why are Caspian ports of little use? (No outlet).

V. SURFACE.

Most of Russia is a remarkably level plain.

The mountains are Ural in the east, and Caucasus in the southeast. The latter has Mt. Elbruz, the highest mountain peak in Europe.

VI. DRAINAGE.

Rivers Volga, longest river of Europe, of great commercial advantage when not icebound. The other rivers are Ural, Dnieper, Dwina and Duna.

The rivers are very long and they flow slowly. Why?

Useful for navigation.

Canals can be easily constructed.

History of Caspian Sea and Ural Sea.

VII. CLIMATE.

Russia lies far from the tempering influence of the ocean. It has, therefore, extremely cold winters, and short, hot summers.

VIII. CLIMATIC BELTS.

1. Frozen tundras (north), too cold for farming even in summer.

Laplanders, use of reindeer, which feeds on moss.

2. Forest Belt, (south of tundras), warmer climate, pine, fir, oak, beech, birch.

3. Grass-covered plains (like Central and Western United States).

Best agricultural belt of Russia. Grains raised in large quantities. "Black earth" belt. (Soil fine-grained, black, very fertile).

4. Steppes (southeast), dry region. Herding chief industry.

5. Extreme southern part near Caucasus Mountains.

Abundant rainfall, crops of warm temperate climates raised.

6. Around Caspian Sea, most of the land is a desert.

IX. RAINFALL.

No part of Russia has abundant rainfall. Why?

Eastern part very dry—crops suffer—farms are fallow in dry seasons.

X. INDUSTRIES.

1. Lumbering—extensive forests, furnish lumber, pulp for making paper, bark for tanning.

2. Agriculture—central and southern portions.

a. Wheat (1) United States, (2) Russia.

b. Rye, more than any other country, barley, oats.

c. Hay, potatoes, sugar, beets.

d. Flax, hemp, raises more than any other country of world.

e. Grapes, tobacco and corn in Southern Russia.

f. Olives and cotton south of Caucasus Mountains.

NOTE.—Farming does not thrive as it should on account of the ignorance of the people, and use of poor farming implements.

Roads are bad in wet seasons; crops cannot be carried to market.

3. Grazing on dry steppes. Sheep, cattle, horses.

4. Mining. (Mineral deposits of great value). Gold, silver, copper, platinum and other metals (Ural Mountains).

Russia produces the larger part of the platinum of the world.

Precious stones, graphite, coal, iron.

Petroleum, ranks next to United States.

Baku, on Caspian Sea.

5. Manufacturing. (6/7 of the manufacturing population carry on work by hand in homes or small shops. Numerous factories have been built recently).

a. Textiles, leather goods, wood and metal goods, pottery.

b. Cotton manufactures very important. Surpassed only by United States and England. Raw materials largely imported from United States.

c. Sugar refining, flour mills, woolen and linen factories, iron works.

Fourteenth Week.

XI. COMMERCE. Only a few railroads in Russia. Trade mostly carried on by water.

Transportation. By sledges when rivers and canals are frozen.

Building of Trans-Siberian Railroad.

XII. EXPORTS. Wheat, flour, flax, hemp.

XIII. IMPORTS. Machinery from British Isles, raw cotton from United States.

XIV. PEOPLE. Many kinds; belong to white race.

Jews, Teutons, Lapps, Finns.

Not progressive owing to poor education and form of government.

XV. GOVERNMENT. Absolute monarchy.

Czar head of government.

Duma representative body.

In local matters the peasants have a voice in the "Mir" or assembly. They discuss matters of common interest and elect officers from their own number.

People are heavily taxed for the government and a large standing army.

Dissatisfaction in Russia due to form of government, not to the Czar.

XVI. POSSESSIONS.

Siberia in Asia.

Russia has been establishing ports on Pacific Coast and building railroads to them.

XVII. CITIES OF RUSSIA.

1. St. Petersburg.

Capital, largest city.

Most important trade center in the north.

2. Moscow.

Second city in size.

Chief manufacturing center.

Chief railroad center.

Holy City of Russia.

3. Odessa.

Principal port on Black Sea.

Important flour mills.

Fifteenth Week.

ITALY.

I. LOCATION. Peninsula in Southern Europe. In very heart of the Mediterranean lands.

II. SIZE. Area, including Sicily and Sardinia, little greater than Colorado.

Smallest of the Six Great Powers.

About two and one-half times size of New York State.

III. POPULATION, about 32,000,000.

In proportion to its size is the most densely populated of any of the Great Powers except British Isles.

IV. SURROUNDING WATERS AND COUNTRIES.

V. BOUNDARIES.

VI. SURFACE. A mountainous peninsula.

North, Alps.

Appennines extend entire length of peninsula—form its very backbone.

Principal lowlands, narrow, coastal plains. Po Valley (fertile sections).

Two famous volcanoes.

Mt. Vesuvius (Italy), Naples.

Mt. Etna (Sicily).

VII. CLIMATE. Warm and pleasant. Why? Alps form a great wall which cuts off the cold north winds.

South and west bathed by the warm Mediterranean.

Italian winters are mild. In extreme south, temperature seldom falls to the freezing point.

Compare climate of Rome 42° and New York City 41°.

VIII. RAINFALL. Much of Italy has abundant rainfall.

IX. INDUSTRIES.

1. Agriculture.

a. Rice. (Po Basin), irrigation.

b. Grapes (ranks second as a wine-producing country).

c. Mulberry trees, silk worm.

d. Flax, hemp, olives, oranges, lemons.

2. Mining.

Little iron, zinc, copper, ore.

Sulphur of Sicily most important mineral.

Marble, of such rare beauty, prized the world over.

3. Fishing. (Mediterranean Sea.)

Precious coral, sponges.

4. Manufactures.

(a) Manufacture of silk (Milan).

(b) Straw goods, Venetian glass, coral, jewelry, statuary.

(c) Manufacture of wine. Ranks second.

X. PEOPLE. Italian. The universal tongue is Italian.

XI. GOVERNMENT. A limited or constitutional monarchy.

XII. EXPORTS. Raw silk to France, Switzerland.

Olives, oranges, lemons, flax, hemp.

XIII. CITIES OF ITALY.

1. *Rome.*

Capital, was once the most magnificent city of world.

Contains the Vatican (the Pope's residence), largest palace in world.

St. Peter's Church.

Famous ruins.

2. *Milan.*

Center of silk trade and manufacturing.

Manufactures much cutlery.

Milan Cathedral.

3. *Venice.*

Principal seaport on Adriatic.

Built on numerous islands.

4. *Naples.*

Largest city.

Commercial center of Italy.

Sixteenth Week.

SWITZERLAND.

I. LOCATION, southern part of Europe.

Has no sea coast. Latitude and longitude.

II. BOUNDARIES.

III. SURFACE.

Most mountainous country of Europe.

Alps on south and east.

Jura Mts. on northwest.

Between mountain systems, a low, hilly plateau (agricultural section), includes one-third of Switzerland.

IV. DRAINAGE.

Because of the distribution of the mountains, rivers flow outward in every direction, mostly too swift for navigation.

Lake Geneva.

V. CLIMATE. Cool on account of altitude. Varies with altitude.

VI. AREA. About 1/3 size of New York State.

VII. POPULATION. A rugged country, but almost as densely populated as France. More people than in New York State.

VIII. RAINFALL.

Lofty mountains in path of prevailing westerlies make Switzerland one of the wettest countries on continent.

IX. INDUSTRIES.

1. Farming (principal industry) in spite of mountains.

Lowlands, grain, grapes, silk worm.

2. Grazing.

3. Dairy-farming (in lower mountains). Cheese, condensed milk.

4. Manufacture. (Very poor in mineral deposits. No coal at all.)

Wood carving.

Manufacture of textiles (cotton, silks).

Jewelry, watches, clocks.

X. TRADE. Extensive.

1. Has excellent materials for road building—hence excellent roads.

2. Is surrounded by densely populated countries which furnish raw materials for Switzerland and which buy her manufactured goods.

3. Roads, railroads—tunnels through Alps—furnish excellent opportunity for trade with north and ports on Mediterranean.

XI. EXPORTS.

Cheese, condensed milk, silk cottons, watches, clocks.

XII. IMPORTS from United States.
Cotton, wheat, petroleum.

XIII. GOVERNMENT.

Republic—consisting of 22 independent cantons or states.

XIV. PEOPLE.

No Swiss Race—people are of mixed blood.

North—German, 72% of population.
West—French, 22% of population.
South—Italian, 5% of population.

People are thrifty and fond of money, but more fond of liberty; they are intelligent and proud of education.

XV. SCENERY.

Cities situated on beautiful lakes and within sight of mountain peaks always covered with snow.

Is a most noted summer resort of Europe.

Half a million people from all parts of the world visit it every year.

XVI. GENEVA.

Abundant water power has built up the chief industry—making of watches and clocks.

On beautiful Lake Geneva, makes it a favorite place for visitors.

Seventeenth Week.

NORWAY AND SWEDEN.
(Scandinavia.)

I. LOCATION. Far northern part of Europe.

Extends far beyond Arctic Circle.

II. COASTLINE OF NORWAY. Remarkable.

Hundreds of fiords—thousands of rocky islands fringe the coast.

III. SURFACE.

Norway—a mountainous country—glaciers in mountains. (Forests.)

Little tillable land—people driven to sea to secure a living.

Sweden for most part a level plain (agriculture), dotted with numerous lakes—larger lakes connected with each other and with sea by canals (transportation).

IV. CLIMATE.

Norway—harbors never frozen.

Mild, damp climate on western side (prevailing westerlies).

Sweden—harbors frozen for several months each winter.

Average temperature in eastern Sweden 20° colder in winter than it is in Norway.

Sweden—shut off from the mild westerlies in the mts.

V. PEOPLE—Norway—fishermen, sailors, lumbermen, or farmers.

Are fond of sea—are found on ships of nearly every nation.

Sweden—Swedes are an exceptionally well educated people as a whole. Practically everybody has had some schooling.

VI. INDUSTRIES.

1. Agriculture (but little)—only in southern Norway and Sweden—mostly Sweden (why?)

2. Mining.

Swedish iron, used in making steel tools—known world over for its purity.

Little silver, gold, zinc, copper.

3. Manufacturing (little developed). Lack of raw material.

4. Lumbering. (1/5 forest land.)

Norway and Sweden are the most important timber-producing countries of Europe.

Wooden goods, paper, matches (exported).

5. Fishing—shallow banks—western coast of Norway.

Center—Lofoten Islands.

Cod, herring, mackerel, salmon in Antarctic Ocean—seals, whales.

100,000 Norwegians engaged in fishing industry.

VII. COMMERCE. Norway carries goods for other nations (makes her own wooden vessels).

Norway has a great number of freight vessels—more than any other European nation except British Isles.

VIII. IMPORTS.

Meat, flour and other food; woolen manuf.

IX. EXPORTS.

Matches, lumber, wooden goods, paper. Swedish iron (best in world).

X. GOVERNMENT.

Norway and Sweden—limited monarchies.

Two countries were formerly united under one king. In 1905 they separated and formed separate governments.

XI. SCENERY.

Beautiful—country visited by tourists.

XII. CHRISTIANIA (Norway).

Capital and largest city of Norway. Built at end of a long and fine harbor.

XIII. STOCKHOLM (Sweden).

Capital—built on a number of islands connected by bridges.

Beautiful city—called the "Venice of the North."

XIV. COPENHAGEN (Denmark).

Capital—called "merchants' harbor." Only harbor in all Denmark that admits large vessels.

A great shipping port.

Guards entrance to the Baltic.

SPAIN.

I. LOCATION. A peninsula in southeastern Europe—separated from France on the north by the high barrier of the Pyrennes.

Latitude and longitude.

II. SIZE.

III. POPULATION.

IV. COASTLINE. Regular—only a few good harbors.

V. THE HISTORY OF SPAIN.

Spain was once one of the strongest nations of Europe. Her colonies occupied a large part of the New World. She held many of the islands of the sea, including Philippines, Cuba, Porto Rico. She had a powerful navy, able generals, admirals, and statesmen.

6B GRAMMAR.

By Mary T. Crowley.

THE WORK IN DETAIL.

First Week.

CLASSIFICATION OF NOUNS AS COMMON AND PROPER.

I. TYPE SENTENCES.

1. The corner-stone of Bunker Hill Monument was laid by Lafayette.

2. London, the capital of England, is situated on the Thames.

3. The time of the singing of birds has come.

4. I stood in Venice on the Bridge of Sighs.

5. Now came still evening on.

6. The Romans conquered many nations.

7. The Louvre is found in France, the great art centre of the world.

8. Holland, a low country on the North Sea, has been reclaimed by dikes.

9. Grant, the hero of many battles, became President of the United States.

II. Give common nouns to name a collection of

ships sailors sheep thieves
soldiers wolves bees chickens

III. Give proper nouns suggested by each of the following:

day	river	general
month	mountain	bridge
lake	doctor	street
boy	girl	volcano
avenue	bureau	department

IV. Similar exercises with proper nouns to have children suggest the common noun. See exercises in Maxwell's Grammar.

V. DEFINITIONS.

Common noun is a noun used as the name of a class of things.

Proper noun is a noun used as the name of a particular person, place or thing.

Second Week.

PERSONAL PRONOUNS.

I. DEFINITION. A personal pronoun is a pronoun which shows by its form whether it denotes the speaker, the person or thing spoken to or the person or thing spoken about.

II. PERSON OF NOUNS.

1. Oh death, where is thy sting?
2. Soldiers, charge.
3. 'Tis I, Hamlet the Dane.
4. Shakespeare wrote plays.
5. Washington commanded the American army during the Revolution.
6. We, the people of the United States, do ordain and establish this constitution of the United States of America.
7. Sons of France, awaken to glory.
8. Sleep, baby, sleep.
9. Friends, Romans, countrymen! Lend me your ears.
10. Sail on, soil on, thou Ship of State.
11. The exhibition of 1876 celebrated the hundredth birthday of the United States.

III. EXERCISE ON PERSON OF PRONOUNS. Have the class supply pronouns for nouns underlined in the following sentence.

1. *John* went home.
2. The *boys* took *John's* hat.
3. The *boys* gave the ball to *John*.
4. The *girl* studied diligently.
5. This is *Mary's* book.
6. The superintendent awarded the prize to the *girl*.
7. The *mountains* are covered with perpetual snow.
8. The peaks of the Alps reach a very high elevation.
9. Grant gave shelter and provisions to *the men*.
10. The *boys* gave the *boys'* trophies to the school.

Third Week.

Analysis of simple sentences.

Synthesis of simple sentences.

Number of nouns and personal pronouns.

Rules for plurals.

I. EXERCISE ON IMPERSONAL IT.

1. It rains.
2. It snows.
3. Come and trip it as you go.
4. They lord it over us.
5. They sought it for two weeks.
6. It is growing dark fast.
7. It is I.
8. It is excellent to have a giant's strength.
9. No, it was he.
10. He knew it to be me.

11. Is it well with thee?
12. It grew wondrous cold.
13. Is it far to London?
14. I will fight it on this line if it takes all summer.

II. Plural of Nouns.

1. Cuff gulf scarf muff elf
hoof leaf proof belief half
chief self sheaf wolf life
calf wife knife wharf

2. toy valley alley pulley
turkey chimney journey attorney
day boy

Rule for nouns ending in y preceded by a vowel.

3. city cry fairy century dairy
fly country copy sky story
spy baby army day mercury
reply lily

Rule for nouns ending in y preceded by a consonant.

4. pailful footstep mouse-trap
mouthful toothache spoonful
rose-tree cupful grandfather
buffalo cargo motto

5. tomato flamingo negro
echo mulatto torpedo
calico mosquito hero
potato volcano

6. man goose mouse tooth
foot child woman ox

7. deer trout fish hose
sheep swine heathen series

8. In letters, figures and signs, add 's to form the plural; as,
Dot the i's.
Cross the t's.
Cancel the 5's.

9. Nouns plural in form and singular in meaning:

news amends measles
means politics mathematics

Fourth Week.

Compound Subjects.

Gender of Nouns and Personal Pronouns.

I. Gender may be expressed in three ways:

1. By words used only for one gender.
2. By ending of words.
3. By prefixes or qualifying words.

II. Examples of Class 1.

boy sir son king
bachelor husband father stallion
monk wife uncle daughter
maid nephew madam witch
ewe doe duke earl
stag wizard ram heifer
goose countess

III. Examples of Class 2.

widower grantess patroness
hostess heiress baroness
priestess czarina Pauline
heroine executrix actress
sultana testatrix

IV. Pronouns.

Masculine	Feminine	Neuter	Common
he	she	it	I we
his	her hers	its	my our
him	her	it	me us
			they their
			them

V. Definitions.

Gender is that form or use of a noun or pronoun which denotes sex.

Masculine gender is that form or use of noun or pronoun which denotes male sex.

Feminine gender is that form or use of a word which denotes the female sex.

Neuter gender is that form or use of a noun or pronoun which denotes the absence of sex.

Common gender is that form or use of a noun or pronoun which denotes something whose sex may be either male or female.

VI. Compound Subject.

1. Balboa and De Soto were early explorers of Spain.
2. John or his sister will be there.
3. England, Scotland, Wales, make up a large island in the Atlantic.
4. Cutlery and fire-arms are leading exports of Great Britain.
5. The Rhine of Germany and the Rhone of France have their sources in the Alps.
6. The Fjords and avenues of water attract tourists to Scandinavia.
7. Both Russia and Germany are noted for the export of lumber.
8. Silks, porcelain, wines are exported from France in large quantities.
9. France, Russia and the United States lead the world in the production of wheat.
10. The noble Lee and the gallant Johnston both fought for the cause of the state.
11. The North and the South fought a bloody fight.
12. The St. Gothard tunnel and the Semplon tunnel have increased the commerce and wealth of Germany.
13. Washington and Lincoln are the noblest figures in American history.
14. Barley, rye, hops and other agriculture products are raised in large quantities in Norway.

Fifth Week.

Analysis and Synthesis of Imperative Sentences. Case of Nouns and Personal Pronouns.

I. Definitions.

Case is that form of word which denotes its relation to other words in the sentence. The subject of a sentence, when a noun or pronoun, is said to be in the nominative case.

II. Subject of a Sentence. Have pupils find subjects in the following sentences. Tell the case and give reason why:

1. The day is warm.
2. I broke the chair.
3. The boys work diligently.
4. May I go too?
5. Are they for me?
6. Are those apples sweet?
7. We went slowly up the hill.
8. How old is he?
9. She brought the flowers.
10. The legislature broke the laws.

III. Nominative Case, Apposition with Subject.

1. Grant, the commander-in-chief of the Union army, received the surrender of Lee.
2. London, the metropolis of England, is situated on the Thames.
3. Ft. Sumter, an important stronghold in Charleston harbor, was commanded by Anderson.
4. Napoleon, the emperor of France, was a great general.
5. Vesuvious, the volcano of Italy, is constantly in a state of eruption.
6. Mt. Vernon, the home of Washington, still stands as an interesting spot for tourists.
7. He, the care-worn President, met his death at the hands of Booth.
8. Bordeaux, a harbor on the western coast of France, exports large quantities of wine.
9. Rome, the capital of Italy, was formerly the chief city of the pagan world.
10. We, the people of the United States, do ordain this constitution.
11. They, the agitators of a lost cause, fought valiantly.

12. Switzerland, the play ground of Europe, attracts many American visitors.

Have children give nouns in apposition with the subject, supplying the following words to be used as subjects:

Iron, Dewey, Washington, Henry Hudson, De Soto, New York City, Albany, Mississippi, Lincoln, Grant, Lafayette, etc.

Sixth Week.

I. NOMINATIVE CASE. PREDICATE NOUN, PREDICATE PRONOUN.

1. Have pupils give sentences telling *what things are.*

2. Write sentences on the blackboard.

3. Show the pupils that two of the words in the sentences mean one and the same person or thing.

Type Sentences.

1. Sicily is an island in the Mediterranean Sea.

2. Longfellow was the author of many beautiful poems.

3. Taft may be our next president.

4. The Monitor was the work of John Ericsson.

5. Morse was the inventor of the electric telegraph.

6. The men in gray were the soldiers of the South.

7. The automobile is a vehicle for travel.

8. Jupiter was the chief god of the Romans.

9. Paul, the Apostle, was a Jew.

10. The box will be a useful gift.

11. Gettysbury was the scene of a bloody conflict.

12. They have been friends for many years.

13. A man severe he was.

14. Napoleon, the great Emperor of France, was a prisoner on the island of St. Helena.

15. Sulphur is the leading mineral export of Italy.

16. Louis, King of France, was the victim of the French Revolution.

17. Robert E. Lee was the beloved commander of the Southern army.

II. POSSESSIVE CASE.

The possessive case is used generally of living things. We say a man's leg or horse's leg, but the leg of a table. Pick out the nouns in the possessive case and state what noun each depends on.

1. The singer's voice is sweet.

2. We watched the eagle's flight.

3. The boy's book is new.

4. The children's clothes are clean.

5. The police found the thief's plunder hidden in the cellar.

6. The farmer bought hay for his oxen's food.

7. Moses' grave is unknown.

8. The ladies' dresses were beautiful.

The noun which the possessive modifies is often understood.

1. William stayed at his brother's.

2. The book is Henry's.

3. This dog is a collie, while Charles' is a setter.

Exercises.

Write the possessive case singular of

Moses Francis Dickens
Conscience Justice Charles
Mr. Jones Mr. Richards.

2. Write the possessive case, singular and plural of

boy gypsy thief goose negro
lady monkey child man chief
baby wife brother hero horse
woman mistress

3. Pick out the pronouns in the possessive case and tell upon what word each depends.

1. I have found my cap.
2. Hast thou seen thy friend?
3. Tom has learned his lessons, but Jane has not studied hers.
4. The bird is in its nest.
5. That hat is yours, where is mine?
6. We have found our mittens.

4. Change the following so as to use the possessive case:

1. The spirit of your fathers.
2. The life of a man.
3. The minds of your daughters.
4. The voice of the duke.
5. For the sake of conscience.
6. The dagger of Cassius.
7. The plays of Shakespeare.
8. The strength of Hercules.
9. The death of Polonius.
10. For the sake of goodness.

III. Objective Case.

1. A noun or pronoun is in the objective case when used as follows:

1. Object of a verb.
2. Object of a preposition.
3. In apposition with a noun in the objective case.

2. Have pupils give sentences that tell *what things do.*

3. Pick out the objects in the following sentences, tell case, and give reason:

1. Lincoln freed the slaves.
2. Grant received the surrender of Lee.
3. We visited the royal palaces of Germany.
4. The Louvre contains many paintings by Raphael.
5. The Rhine carries much sediment with it.
6. The ocean steamers cross the Atlantic in a very short time.
7. The Confederates held the strongest fortification in the South.

4. Objective case by apposition.

1. Grant received the surrender of Lee, the Confederate general.
2. We visited Paris, the art center of the world.
3. Anderson commanded Fort Sumter, the important stronghold of Charleston.
4. Tourists visit Vesuvius, a volcanic mountain of Italy.
5. We started from Canton, the capital of China.
6. They returned safe from their climb, the most dangerous ascent of the Matterhorn.
7. We visited Albany, the capital of New York, the Empire State.
8. Children love Longfellow, the poet.
9. We read Uncle Tom's Cabin, the story of slavery.

5. Have pupils tell kind of noun and give person, number, gender and case of the nouns in the foregoing sentences.

Give reason for the case of each noun.

Seventh Week.

Interrogative Pronoun.

I. An interrogative pronoun is one that is used in asking questions.

II. Pick out the interrogative pronouns in the following sentences:

1. Who are you?
2. To whom did you go?
3. Which did he choose?
4. What did he say?
5. Whose book has he?

Note.—*Who* is used when we expect the answer to be the name of a person; *what* when we expect the answer to be the name of a thing; *which,* when we are asking about a known number of persons or things.

III. DECLENSION.

Sing.

Noun—who what

Poss.—whose

Obj.—whom what

IV. Give the case and reason for the interrogative pronouns in the following sentences:

1. To whom are you writing?
2. Who hath measured the waters?
3. For what are they looking?
4. Whom do the people expect?
5. Whose house is this?
6. Who spoke so loudly?
7. Whom should I trust?
8. What is the ocean doing?
9. What is the matter?
10. Which do you want?

V. Give sentences with the pronoun omitted. Have them supply the correct form.

Analyze the above sentences.

Give the person, number, gender of each noun and pronoun.

RELATIVE PRONOUN.

I. A relative pronoun is a pronoun which serves to connect the clause of which it is a part with the antecedent of the pronoun.

II. Two or more sentences may be combined by the use of the relative pronoun. Combine the following:

1. That is the boy. He broke the window.
2. That is the man. His window was broken.
3. The boy drove away the cows. They were grazing.
4. This is the rat. It ate the malt The malt was in a house. Jack built the house.
5. The machine was broken. It has been mended.
6. The boy is crying. He is called Tom.
7. My uncle gave me the book. It is on the table.

III. The noun or pronoun for which a relative pronoun stands is called its antecedent.

IV. Pick out the relative pronouns and their antecedents:

1. The boys drove away the birds which were eating the corn.
2. People love those who are kind to them.
3. The man who suffered during the war was Lincoln.
4. This is the house that Jack built.
5. He is a boy whom all respect.
6. He prayeth best who loveth best all things, both great and small.
7. Is this a dagger which I see before me?
8. The mariner whose eye is bright is gone.
9. Where is the book that you borrowed?
10. He singeth loud his godly hymns, that he makes in the wood.

IV. Have pupils note that the relative agrees with its antecedent in person, number and gender, but not always in case.

V. Parsing of relative pronouns.

VI. Declension of relative pronouns.

Eighth Week.

RELATIVE PRONOUN (Continued)—ADJECTIVE PRONOUNS.

I. In the following sentences tell whether *who, which* and *what* are use as interrogative or relative pronouns:

1. Who are you?
2. He asked me who I was.
3. That is who I am.
4. Tell me what you are doing.
5. This dictionary is just what I want.
6. That is the plan which you should follow.
7. To whom will you offer it?
8. I am surprised at what you say.
9. Here is the person who asked the question.
10. What is it you said?
11. Where is the tree into which the squirrel ran?
12. Kindly inform me which is the road to Exeter.

ADJECTIVE PRONOUNS.

I. Words which take the place of both adjectives and nouns:

Some books	Few scholars
Any dolls	These chairs
Those books	Much cotton
More coffee	Each child
Several days	Other cities
Either general	Neither hero

II. Have pupils pick out the adjective in each of the above groups. Then use each adjective in a sentence without the noun. Parse in the same way as nouns and other pronouns are parsed.

III. Types of adjective pronouns. Parse:

1. Many of the manufactures of England are exported to the continent.
2. The tourists visited nearly all of the capitals of Europe.
3. Some of the Southern States objected to a protective tariff.
4. Few recovered from the shock.
5. Much was said in praise of Lincoln.
6. Some are natives of Russia.
7. Those are the veterans of the Army of the Potomac.
8. Many of the Dutch sailors served under the British flag.
9. These are the excavations of the city of Pompeii.
10. None remain of the heroes of 1812.
11. Someone reported the event.
12. Others may judge him better.
13. Neither is present this morning.

Ninth Week.

DRILL ON THE DIFFERENT KINDS OF PRONOUNS.

SYNTAX OF NOUNS AND PRONOUNS.
KIND OF NOUNS OR PRONOUNS.
CASE AND WHY.
IMPERSONAL IT.

Exercises for Drill.

1. It rains.
2. It snows.
3. Come and trip it as you go.
4. They lord it over us.
5. It is I.
6. It is excellent to have a giant's strength.
7. No, it was they.
8. He knew it to be me.
9. It is far to London.
10. No, I will fight if it takes all summer.
11. It is growing dark fast.
12. Is it well with thee?
13. It grew wondrous cold.

Tenth Week.

SYNTAX, NEUTER AND PASSIVE VERBS, See Longmans' Grammar, p. 115; Maxwell's Grammar, p. 100.

Eleventh Week.

SYNTAX, NEUTER AND PASSIVE VERBS WITH COMPLEMENTS.

Observe that neuter verbs followed by predicate noun, pronoun or adjective never take an object.

I. Have pupils give sentences telling:

1. What things are. (Predicate noun or pronoun.)

2. What is done to things. (Passive.)

3. Quality of things. (Predicate adjective.)

Twelfth Week.

SYNTAX, ANALYSIS AND SYNTHESIS, ADJECTIVES.

I. Review kinds of adjectives.

1. Proper.
2. Descriptive—What kind?
3. Quantity—How many?
4. Demonstrative—Which?
5. Articles.

II. Pick out the adjectives.

1. Those beautiful flowers grew in that large garden.

2. This apple is to be given to the little girl.

3. Many men have great minds.

4. And the good south wind still blew.

5. Interesting places are found in the woods.

7. Where have you heard strange sounds?

III. Tell which adjectives describe, which point out, and which tell how many.

IV. Comparison of Adjectives.

1. Positive, comparative and superlative degrees.

2. In parsing an adjective tell (a) kind, (b) compare it, (c) tell degree, (d) name what it modifies.

3. In regular comparison, the comparative and superlative are formed by adding *er* and *est* to the positive.

4. Compare: Strong, hard, smooth, fine, coarse, big, fat, healthy, pretty, cold, high, warm, blue.

5. Comparison by using the adverb *more* with the adjective to form the comparative, and *most* to form the superlative. Beautiful, earnest.

6. Irregular Comparisons.

Good, better, best.
Bad, ill or evil, worse, worst.
Little, less, least.
Many, more, most.
Several, more, most.
Much, more, most.
Some, more, most.
Old, elder, older—eldest.
Far, farther, farthest.
further, furthest.
Nigh, nigher, nighest.
next.
former, foremost.
first.
upper, upmost
uppermost.
Late, later, latest.
latter, last.

7. Adjectives that are not compared.

(a) Adjectives of quality that express number; as one, two, etc.

(b) Demonstrative adjectives; as this, that, all, etc.

(c) Some adjectives of quality, as chief, principal, dead, living.

8. Compare the following adjectives: Lazy, ugly, witty, red, slim, thin, glad, hot, mad, dim, coy, gay, cruel, prudent, sensible, dangerous, eloquent, tender, heavy, early, busy, lucky, rude, black, great, proud, clean, bad, latter, first.

9. Use of adjectives.

(a) Modifiers.

(b) Complements (with neuter verbs).

(c) Substantives.

Thirteenth Week.

ADJECTIVES (Substantives).

1. Blessed are the meek.
2. Blessed are the merciful.
3. None but the brave deserve the fair.
4. We should honor the wise and great.
5. He was kind to the old and feeble.
6. The Lord will destroy the house of the proud.
7. How are the mighty fallen!
8. The blind should have our pity.
9. The strong should aid the week.
10. The bells toll for the brave.

Fourteenth Week.

CLASSIFICATION OF ADVERBS.

Time, Manner, Interrogative, Place, Degree, Negative.

I. Parsing adverbs.

Kind of adverb.

Compare: Degree of comparison

What adverb modifies.

II. Adverbs of manner.

1. The soldiers fought gallantly during the war.
2. Come quickly.
3. Birds sing sweetly in the trees.
4. Grant treated Lee graciously at the surrender at Appomattox.
5. Lincoln patiently awaited the surrender of Richmond.
6. Johnston slowly advanced to Shiloh.
7. Many Southerners treated the slaves well.
8. Wolfe stealthily ascended the Heights of Abraham.
9. The boy walked hurriedly to school.

III. Adverbs of degree.

Note.—Adverbs of degree modify adjectives or other adverbs.

1. The streets are very wide.
2. How clean the streets of Holland are.
3. Scarcely enough food was given to the sufferers.
4. The Japanese are exceedingly clever in the art of cooking.
5. The battle of Antietam was most disastrous to the Confederates.
6. The most interesting sight to foreigners is the Statue of Liberty.
7. The city of New York is too thickly populated.
8. The coral reefs are so dangerous that many vessels are wrecked.
9. Lincoln was so thoughtful that his associates loved him.
10. The streets of Washington are exceedingly wide.

IV. Comparison of adverbs.

Some adverbs are formed from adjectives by adding *ly*, as kind, kindly.

V. Irregular comparison.

Positive	Comparative	Superlative
well	better	best
badly	worse	worst
ill	worse	worst
little	less	least
much	more	most
some	more	most
late	later	latest
		last
nigh	nigher	next
near	nearer	nearest

Fifteenth Week.

INDIRECT OBJECT.

PREPOSITION.

VII. Parsing of the preposition.

Model:

John went to the store.

To—Preposition.

It introduces the adverbial phrase to the store.

It shows relation between the object noun *store* and the verb *went*.

Note—Prepositions are not modifying words. Prepositions show relations of place, time, cause, etc.

Sixteenth Week.

ANALYSIS AND SYNTHESIS.

CONJUNCTIONS.

1. Kinds of conjunctions:

Co-ordinate, additive, disjunctive, subordinate.

2. A conjunction is a word used to join a word or group of words to another word or group of words.

3. Conjunctions are classified according to their use, as in 4 and 5.

4. Co-ordinate that join words or groups of words of equal rank.

Additives, joining similar elements, as *and, also, as well as, besides, furthermore.*

Disjunctive, joining alternatives, as *or, either, nor, neither, else, or else, or whether.*

5. Subordinate:

a. Introductory; that, whether, if.

b. Cause; because, since.

c. Purpose; in order that, so that, so, so as that.

d. Comparison; as, than.

Seventeenth Week.

ANALYSIS, SYNTHESIS, EXPLETIVE.

Eighteenth Through Twentieth Weeks.

REVIEW.

Physics and Chemistry Desirable for Farmer To Know

ALBERT C. MAYHAM.
WARWICK, N. Y.

NOTE.—A reference is made to the topic "How Plants Feed." That topic is found in Mr. Mayham's outline which forms a part of AGRICULTURE IN THE SCHOOLS, an article published in the *McEvoy Magazine* for June, 1911. That helpful article was reprinted in pamphlet form and is for sale at five cents a copy. —Editor.

Our earth was once a glowing star, shining brilliantly like the sun. It was first gaseous, then liquid, and finally solid, as it is today. In speaking of the earth, however, we must include the water upon it and the atmosphere surrounding it, hence we have the three conditions still: solid, liquid, aeriform. Solid bodies have a strong tendency to retain their shape. Illustrations are everywhere. Liquids adapt themselves to the form of the vessel or hollow containing them. Water is the best example. Aeriform bodies are invisible forms of matter of which the atmosphere is the most familiar type. Nearly all bodies can be made to take these three states successively. Ice is changed to water and then to steam, or the order may be reversed. Many solids pass easily to the liquid form and some go directly from the solid to the gaseous. These changes are all grouped under one head and called physical. A physical change does not destroy the identity of the substance acted upon.

A division of matter of great antiquity and still in common use, is that of mineral, vegetable and animal. Kingdoms they are called, and boys and girls will do well to classify common objects under these three heads. Another assorting, not quite so general and a little more difficult to grasp at first, makes but two classes, organic and inorganic substances.

Organic matter has been produced by life, as flesh or wood. Inorganic matter has not been formed by life. It is rather the substance out of which living products are made. "And the Lord God formed man of the dust of the ground." All organized matter, all vegetable and animal bodies, perish in time, and their elements return to the first, or inorganic, state. "All are of the dust, and all turn to dust again."

There are some kinds of inorganic matter that have never been separated. All such are called elements. The list at present includes about seventy substances, some very rare, some confined to certain localities, and some abundant everywhere. Elements are solid, like gold or iron; liquid, like mercury; or aeriform, like oxygen. Of all the matter in the world with which we come in contact, much is made up of two or more elements and called compounds. The compounds are totally unlike the elements composing them, though any compound may be separated into its elements. In fact, the very nature of a compound requires that it be possible to separate it.

Any boy or girl in the eighth grade will understand the two words, "analysis

and synthesis." An operation which begins with the whole and descends to the parts that compose the whole, is called analysis. The word means a taking apart or separating. An operation by which the parts are united into a whole is called synthesis, meaning a putting together. These two methods are the reverse of each other, and both are applicable to the study of compounds. Take water, for example, which is a compound of hydrogen and oxygen. The chemist will take bits of zinc, pour upon it a little water and sulphuric acid and the compound is broken up, or he will mix the two gases and unite them by an electric spark, forming water. This example of analysis and synthesis—separating the compound into its elements and combining the elements to producec the compound—will be more clearly understood a little later.

Many inorganic bodies are compounds, the great bulk of inorganic matter in fact. Organic matter is chiefly composed of compounds. Again, certain substances, so called, are mixtures of substances and are not classed as separate forms of matter at all. The air, for example, is a mechanical mixture of gases, each as distinct as the grains of wheat and corn mingled in a bin. It is composed of nitrogen and oxygen, mingled throughout the atmosphere, but not united like the hydrogen and oxygen that form water.

Let us return then to a more careful study of water in order that we may understand this difference between a mixture and a compound. We have spoken of turning water into steam. This invisible, or aeriform, body is a compound still. It remains water, only it is in the form of vapor. Destroy the water, break up the compound and the elements, oxygen and hydrogen, reappear. Here is a change that is not physical and concerning which we must inquire. For this purpose it is necessary to use and define three new terms, mass, molecule and atom.

To start with we may think of the word body as meaning mass; that is, we may call any body of matter a mass of matter. The size is not important. A drop of water or a grain of sand, each is a mass. Organic and inorganic matter, solid, liquid, aeriform bodies, elements and compounds, each and all are composed of masses. Any mass, however, no matter what its name or nature, is composed of molecules. A molecule is a quantity of matter so small that it cannot be divided without changing its nature. It is the smallest particle of a substance which can exist in a separate form. With the molecule the sciences of physics and chemistry part company. Any change which takes place in a substance without destroying the molecule is a physical change. Any change which does destroy the molecule is chemical. Almost before we are ready for a new thought one forces itself upon us. When the chemical change takes place, when the molecule is destroyed, what then? In answering this question we must make use of our remaining new word. The molecule is broken into atoms. "Smashed into atoms," we say when we wish to convey the meaning, broken into small parts. The quotation is figurative, however. The smallest part into which we can, by a physical process, break anything, is a mass. The atom is defined as the smallest particle of matter that can exist or that can enter into combination. It is the chemical unit, indivisible and indestructible.

All atoms are elements. They do not exist alone, but unite and form molecules. If all the atoms in a molecule are alike, that molecule and others of the same kind form a mass which is an ele-

ment. If atoms of two or more elements unite to form a molecule. this molecule, with others like it, form a mass which is a compound. This is so important that we may repeat it: elementary molecules make elementary masses; compound molecules make compound masses.

The "law of gravitation" has a familiar sound even though it may not convey a very clear meaning. Some teacher, it may be, has required us to learn, in denominate numbers in arithmetic, that weight is the measure of the force of gravity. When we say a body weighs a ton we mean that the earth attracts it that amount. Gravity is used to designate the earth's attraction for all terrestrial bodies. An apple falls to the ground because of it. Gravitation is the general term for that form of attraction which exists between the earth and moon and sun, holding each in its appointed course. In its broadest application it exists between all bodies in the universe. By it the stars are bound to one another. But what of the force which holds molecules together in a mass and atoms in a molecule?

We know that solid substances, when brought in contact with most liquids will gather and hold on their surface some of the liquid. We know also that dust settles on walls, that chalk holds fast to a blackboard, ink to paper and paint to anything. The force by which two unlike masses are held together is called adhesion. Stated in the usual form of a definition, adhesion is that force which holds together unlike molecules. We see it illustrated further in the use of glue, putty, solder, mortar or cement.

But what force holds like molecules together? In other words, what force holds all solid bodies together and gives them form? Gold, silver, copper, iron, each is made up of like molecules and were it not for some force acting between the molecules these solids would crumble into duct. We call this force cohesion. The definition, then, is this: Cohesion is the force that holds together like molecules.

There is still another force, called chemical affinity, which acts not between molecules, but between atoms. This force not only holds together the atoms in a molecule, but it causes atoms to unite and form molecules, not of elements but of compounds. Whenever a mass of matter is acted upon so that it separates into molecules and the molecules, in turn, are destroyed, the atoms thus set free, being indestructible, immediately form new combinations in obedience to this law of chemical affinity, and all such new combinations are compounds. This is precisely what happens in all those changes spoken of in the chemistry of cooking, the chemistry of digestion, or the chemistry of plant growth. It is what happens when any new substance is formed, artificially or in nature.

The atmosphere, we have said, is a mixture of gases of which oxygen comprises one-fifth. An apple ripens upon the tree, a black spot appears on its surface, which quickly becomes a decayed place in the fruit. In language which any boy understands we say the apple has commenced to rot. But just what do we mean? The pulp is composed of compounds formed by plant chemistry out of elements drawn from the earth and from the air, in a manner to be explained under VIII., How Plants Feed. in our Topical Outline. We find it now, ready formed, and showing signs of rapid decay. The oxygen of the air is really breaking up the chemical structure of the compounds which compose the apple and out of the liberated atoms new compounds are being formed. This is possible because the chemical affinity of oxygen for some of the atoms in the

compound is stronger than the chemical affinity, already existing between the different atoms in the organic compounds existing in the apple pulp. So it is with all vegetable and animal bodies, all organic matter, when left exposed to the air. We say they putrefy, decay, rot. What we mean, really, is that the compounds composing them are breaking up into atoms and the atoms, thus liberated from the old, worn out and useless body, are to again unite in new ways, forming new compounds, for new uses and purposes.

When the Plymouth farmers, nearly three hundred years ago, began to practice Indian husbandry and plant corn upon the sterile coast of Cape Cod Bay, Squanto told them to place a dead fish in each hill. What happened? There is in the body of a fish, some of the same kind of atoms found in a kernel of corn. Both the fish body and the corn body must have those atoms. Neither can exist without them. They were not present, in sufficient quantity in the soil in Plymouth. The fish body placed in the hill and covered with soil, soon decayed. The atoms which the corn needed were thus deposited plentifully where the corn roots could reach them.. They were taken up by the root hairs, carried through the stalk of the corn plant and deposited, built into the kernel.

It has been observed that (1) stones grow, (2) plants grow and live, (3) animals grow, live and move. With the life principle we have no concern here. We can only study some of the life processes. All living bodies, whether vegetable or animal, are made up of materials drawn, in the first place, from inorganic sources. In other words, the elements which compose all matter, are in the first and last analysis, inorganic. Certain of the elements are necessary for the growth of plants and animals. Our own bodies are made up of them, yet we cannot live upon them or even take them into our body at first hand. Neither phosphorus, nor iron nor carbon, as mineral substances, are good for food, though found in the body. Inorganic matter must be changed to organic, through plant growth, before it becomes suitable food for animals and a considerable portion thus changed has to be still further transformed into actual animal flesh before it can be eaten and digested by man. Some of it also is changed chemically by cooking.

The plant, then, takes up the mineral substances out of the earth and by processes of vegetable chemistry, destroys the elementary molecules, recombines the elementary atoms into molecules of compounds, and stores these compounds in some part of the plant where they may be used as food by animals. All the elements essential to plant growth must be present in the soil, must be contained in suitable form in the feeding bed where the roots are located. Nor is this all. These elements must not only be reduced to fine particles, but they must be dissolved before the plant can feed upon them, before the molecules can be taken up by the root hairs, carried through the circulatory system of the plant and deposited in the leaf where, under the power of the sunlight, the molecule is broken up. Then from this leaf laboratory the new formed substance is again carried through the circulatory system to that particular part of the plant where it is required and where it is built into plant tissue. These processes are going on constantly and should they cease all life upon the earth would end.

The farmer must study plant structure in order to find out what inorganic mineral elements are required as food by the plant. He must study the soil in order to find out what inorganic mineral ele-

ments it contains. Then he must bring the right kind of soil and the right kind of seed together. If the soil is deficient in one or more elements they must be supplied in the form of manure or commercial fertilizers. Again, when the farmer feeds his stock or himself he must study the animal body to find out what elements it contains. Then he must study foods to ascertain their composition that he may supply the necessary balanced ration. Of course, in this study, the farmer makes use of all available information contained in books. It is not meant that he must work out everything at first hand. But he must know something about how these things are worked out if he is to understand the results which he finds set down in the printed page.

While there is, in nature, something like seventy elements, there are scarcely more than a dozen found in ordinary soil, in plants and in animals. In the earth and atmosphere, let us remember, are all the elements on which life depends. Man, for his nourishment, requires the most highly organized forms, closely resembling the tissues of his own body. The transformation from the crude forms of the inorganic world is effected, as we have seen, by both plants and animals. The products of this transformation, classified as foods, are nitrogenous and non-nitrogenous. Among the first are albumen, fibrin, caseine, gluten. Among the last, fats, oils, sugars, starch. These are compounds. Going back a step now to vegetable foods, that is, the common earth and air elements upon which vegetables or plants live, we may name some of the more important. We will include in the list the dozen or more ordinary soil elements: Aluminum, calcium, carbon, chlorine, hydrogen, iron, magnesium, nitrogen, oxygen, phosphorus, potessium, silicon, sodium, sulphur.

It must not be supposed that the soil elements exist in a pure state, masses of each mixed together ready to be broken and dissolved and used as plant food. Soil substances are not of that nature at all. Soil substances and plant foods are, for the most part, compounds, already formed of course by chemical action out of the elements named. It is these soil compounds that are again broken and again formed into new organic compounsd. Soil formation, which is the subject first treated in Topic II of the Outline, can only be understood after all this matter of simple chemistry has been studied, but the study of soil formation in turn helps to make clear all that has been said about simple chemistry. In fact, throughout our whole course each part helps to make clearer all the other parts. It may be said here with reference to the mechanical make-up of soils, that they are formed by the breaking down of rocks of different composition. They are made up of exceedingly fine particles of masses, irregular in shape and varying in composition. With these rock particles are mixed the products of successive ages of vegetable growth. Ordinary soils contain both organic and inorganic matter and most of it is in the form of compounds.

Bear in mind that plants grow and live, that they possess organized bodies, capable of taking food from the earth and air, and that many vegetable processes resemble very closely the similar processes that take place in our own bodies. The plant cannot move but depends for food solely upon those stores within its reach, the feeding bed where its roots are placed. Every single plant is an individual, the myriads of spears of grain in a field or grass blades in a meadow. Each must, if it lives, go through with a separate performance of all the life functions. Not only this, but it must also reproduce itself; for the old body will die

and only the life principle can be transmitted. In the life of each individual plant there must take place that ceaseless round of chemical action, that breaking up of old molecules and formation of new, as the plant grows reproduces itself and dies.

Suppose now that we restate in the form of a brief outline, the classifications, changes and forces that we have considered in our study of simple chemistry.

Classification of matter:

A.
- Solid
- Liquid
- Aeriform

B.
- Organic
- Inorganic

C.
- Mineral
- Vegetable
- Animal.

D.
- Elements
- Compounds
- Mixtures

Changes in matter:
- Physical
- Chemical

Forces that affect molecules:
- Adhesion
- Cohesion

Force that effects atoms:
- Chemical affinity

Let not the learner be confused nor discouraged by a seeming multiplicity of new terms. All in good time they will stand out bold and clear, each representing an idea. These ideas, in their turn, will unite to form thoughts and thinking is the end of being. Effective study must be definite. Definite study is interesting. Interesting study gives results. Review a subject again and again. "In the Beginning," is the best daily text.

High School Physics

By WALTER S. NEWTON

Definitions and Principles.

DEFINITION OF SOUND.—SOUND *may be defined as any form of motion that is capable of being perceived by the ear.*

A. *Origin of Sound

Sound always comes from some material body which is in a state of vibration.

THE NATURE OF A VIBRATION.—By a vibration is usually meant the motion of a body to and fro along the same path. The student will recall that this motion is similar to that of the pendulum, yet the vibrations are from an entirely different cause.

The pendulum motion is due to the force of gravity, while the vibrations of a sound producing body are due to the elasticity of the material of which the body is composed. An illustration will make this fact clear. When the prongs of a tuning fork are struck, they are bent and they immediately tend to resume their original shape due to the elasticity of the metal. The prongs, however, are in motion when they reach their original position, and they will continue to move backward and forward until stopped by some resistance. This vibratory motion produces sound and is maintained by the force of elasticity.

VIBRATORY MOTION.—The motion of each particle of a vibrating body is called vibratory motion.

PERIODIC MOTION.—The motion is called periodic when each particle of the vibrating body returns to the same position after equal intervals of time.

THE PERIOD.—The time required for a single swing is called the period.

THE AMPLITUDE.—The amplitude is the distance passed over by a vibrating particle in one backward or one forward motion.

KINDS OF VIBRATIONS.—The vibration is *transverse* when the motion is perpendicular to the length of the vibrating body. When one end of a thin strip of wood, as a yard stick, the other end of which is firmly fastened, is drawn aside and then released, the free end will vibrate for some time. The path of the vibrations is perpendicular to the length of the yard stick, these vibrations are called transverse vibrations.

The vibration is *longitudinal* when the motion has the same direction as the length of the vibrating body. When a small weight is suspended by a rubber cord, then pulled down and released, the weight and particles of the cord will vibrate parallel to the length of the rubber cord; these vibrations are called longitudinal vibrations.

1. *Amplitude of wave and loudness.*

B *Propagation of Sound Waves

2. *Length of wave and pitch.*
3. *Form of wave and quality or timbre.*
4. *Velocity of sound.*

WAVE MOTION.—By wave motion is meant the effect that one particle of an elastic body, has upon another particle, so as to cause other portions to have a similar motion.

SOUND WAVES.—Since sound comes from some material vibrating body, it must

be carried by some means to the ear. Each elastic vibrating body causes air particles to vibrate, producing a wave motion. These wave motions are called sound waves as they affect the ear.

PROPAGATION OF SOUND.—Waves, like vibrations, may be transverse or longitudinal. Vibrations are propagated through air by longitudinal waves or waves of condensation and rarefaction. In order that any medium shall transmit sound, it must be elastic. When the prongs of a tuning fork are vibrating the prongs advance, condensing the elastic air in front of it. This transmits the compression to the air in front of it; when the the prong moves backward, the particles of air rebound and the next layer passes in a state of rarefaction. This process is repeated until the fork comes to rest and the sound ceases. Each vibration produces a sound wave of air, which contains one condensation and one rarefaction. When these air waves strike the delicate organs of the ear the sensation of sound is produced.

WATER WAVES.—These waves are similar to those produced by transverse vibrations in a stretched cord. The particles of water move up and down while the wave moves onward.

TERMS USED.—The distance that each particle moves, up or down, from its original position is called the amplitude of the wave. A wave consists of a complete crest and trough; the crest corresponding to the amplitude of the wave above its original position and the trough the amplitude of the wave below its original position.

1. AMPLITUDE OF WAVE AND LOUDNESS.

The loudness or intensity of a sound depends upon the amplitude of vibration. When there is an increase in the amplitude of the vibration of the sounding body there is also a corresponding increase in the amplitude of each wave leaving the sounding body. Thus each wave carries with it an increased quantity of energy, which produces a definite change in the vibrating particles of air reaching the ear.

THE LOUDNESS OF SOUND DEPENDS UPON:

1. *Amplitude of vibration.*
2. *Density of the medium.*
3. *Area of sounding body.*

4. *Distance of the ear from source of sound.*

1. LOUDNESS *is proportional to the square of the amplitude;* but loudness is a sensation, and no accurate measurement of sensations has yet been made.

2. The experiment with the bell placed in a receiver from which the air was gradually exhausted, thus becoming rarer and rarer, shows clearly that the loudness of sound depends upon the density of the medium. The denser the medium the greater the energy imparted to each wave by the body in vibration. For this reason a cannon, fired at the top of a mountain, will make only a small report.

3. Experiment has proven that when two tuning forks are set in vibration, both having the same number of vibrations, the larger will produce the louder sound. This fact is explained,—by the larger fork compressing a greater volume of air gives out more of its energy to each wave emitted and thus produces a louder sound.

4. *The intensity or loudness of sound, mechanically considered, varies inversely as the square of the distance from the sounding body.* When a bell is struck the sound is heard in all directions. Waves of condensation and rarefaction are formed which spread out in form of a sphere. The larger the sphere the greater the number of air parti-

cles set in motion, and the feebler their vibration. The surfaces of spheres are proportional to the squares of their radii; the radii of sounding spheres are their distances from the center of the vibrating body. At a given distance from the bell a sphere will have a certain area which at twice the distance will be four times as great. The energy imparted at twice the distance will be distributed to four times as many particles and will be one fourth as much. Thus, the intensity of sound is said to be inversely proportional to the square of the distance from the sounding body.

2. Length of Wave and Pitch.

The number of vibrations given out by a body per second determines the WAVE LENGTH. PITCH *is a term applied to the degree of highness or lowness of a sound.* Thus wave length may be used to measure the pitch. By experiment it has been proven that pitch depends upon the number of wave lengths or pulses per second emitted from a sounding body to the ear. The shorter the wave length, the higher the pitch, and the longer the wave length, the lower the pitch.

THE SIREN.—The siren is an instrument used to determine the vibration frequencies of different tones. The simplest instrument of this kind consists of a circular disk, having uniform perforated holes near the circumference. The disk is made to revolve while a current of air strikes the holes. The stream of air blown against the disk is alternately transmitted and checked by the holes as they are in motion. This succession of pulses if regular produces musical tones which become higher in pitch as the velocity of rotation is increased.

MEASUREMENT OF PITCH.—*Multiply the velocity of the disk by the number of holes in the disk.*

MEASUREMENT OF SOUND WAVE.—*Divide the velocity of sound in air by the pitch.*

3. Form of Wave and Quality or Timbre.

It is well known that two tones of the same pitch and intensity do not sound necessarily alike. The tones produced by a cornet are easily destinguished from those of a violin. This difference of tone is a difference of quality. Quality depends on the form of the wave. The wave form is determined by blending a simple tone with one or more partial tones.

SUMMARY.—*Loudness depends upon the amplitude of the wave; pitch on the frequency of vibration, and quality on the form of the wave.*

4. Velocity of Sound.

THE VELOCITY OF SOUND IN ANY MEDIUM.—*The velocity of sound depends upon the elasticity and the density of the medium.* The velocity is directly proportional to the square root of the elasticity of the medium and inversely proportional to the square root of the density.

$$\text{Velocity} = \text{square root of} \frac{\text{elasticity.}}{\text{density.}}$$

THE VELOCITY OF SOUND IN AIR.

By experiment it has been found that sound travels in air with a velocity of 332 *meters, or* 1090 *ft. per second,* when the temperature of the air registers 32° F, or 0° C.

Effect of Temperature upon Velocity.

The velocity of sound in air is increased by an increase of temperature, because heat causes air to expand, thus increasing its elasticity and decreasing its density. *For approximate calculations the increase in velocity*

due to a rise in temperature may be reckoned as 60cm. or 2 ft. increase for every degree Centigrade, and 33 cm. or 1 ft. increase for every degree Fahrenheit reading.

THE VELOCITY OF SOUND THROUGH LIQUIDS AND SOLIDS.

Sound travels through water with a velocity of about 4700 feet per second, or about 4.4 times the velocity in air. Although water is much denser than air, it possesses a high degree of elasticity. On account of the elasticity of water, sound travels over four times as fast in it as in air.

In solids, measurements have been made and results obtained showing that velocities vary with the nature of the solid. In copper the velocity is about 11 times as great as in air and in steel about 15 times as great.

Type Problems

1. The flash of a gun is seen 4 seconds before the report is heard. If the temperature is 25 ° C. how far is the gun from the observer?

Velocity at 25° C.=1090+(2X25).
V=1140 *ft. per second.*
Distance=velocity X *time.*
d=1140 X 4.
d=4560 *ft. Ans.*

2. How long after a cannon is fired, will the report be heard at a point 8500 ft. distant, the temperature being 50° F.?

Velocity at 50° F.=1090+(1X50).
V=1140 *ft. per second.*
Time=distance÷velocity.
t=8500÷1140.
t=7.5 *sec., nearly. Ans.*

3. A tuning fork vibrates at the rate of 256 vibrations per second. Determine the length of each sound wave at a temperature of 15° C.

Velocity at 15° C.=1090+(2X15).
V=1120 *ft. per second.*
Velocity=vibration X *wave length.*
1120 = 256 X L.
L = 4.4 *ft. Ans.*

Drill Problems

1. A shot is fired from a distant hill, the report heard 5 seconds later. The temperature being 15° C. find the distance of the hill.

2. Taking the velocity of sound as 1120 feet how long will it take the sound to travel 2 miles?

3. Find the length of a sound wave that produces 830 vibrations per second; the velocity of sound being 332m. per second.

4. The report from a mine is heard 12 seconds after the flash is seen. The temperature of the air is 65° F. Distance of mine from observer 12,000 ft. Determine the velocity of the sound.

5. If at sunset a gun was fired at exactly 6 P. M. at a fort, what time was it when the report was heard 15 miles away, the temperature of the air being 25° C.?

6. Calculate the temperature of the air when the velocity of sound is 1150 feet per second.

7. State the relation between the velocity of sound and the elasticity and the density of the medium. Compare solids, liquids, and gases as mediums for the transition of sound.

8. Explain the production of sound waves. On what does each of the following depend: (a) intensity (loudness) of sound, (b) pitch?

9. Describe an experiment to show that sound can not be propagated in a vacuum.

10. What is the difference between longitudinal and transverse waves?

Reflection of Sound—Echoes

When sound waves meet a denser medium from that in which they have been traveling they are reflected.

AN ECHO *is the repetition of a reflected sound.* The distinctness of the echo depends upon how fully the sound has been reflected. As a sound to be reflected must pass from its source to the reflecting surface and back again, a speaker to hear a distinct echo must be at least 550 feet distant from the reflecting surface. When the speaker is at a much less distance the reflected waves reach the ear before the original sound has died out. The laws for reflection of sound and light are the same, and will be discussed under light.

D. *Resonance.

RESONANCE *is the reenforcement of sound by combining direct and reflected waves. Bodies that absorb the vibrations of other sonorous bodies and vibrate in unison with them are called* RESONATORS. Resonators strengthen the sound of a vibrating body, as they absorb the vibrations which would otherwise be scattered, and then give out vibrations of their own. The vibrations of a violin box, when united to the vibrations of the strings, greatly increase quantity of sound produced.

SYMPATHETIC VIBRATIONS.

SYMPATHETIC VIBRATIONS *are produced whenever a sounding body is near another that has the same vibration period.* The setting of one body in vibration causes the other body to vibrate. When two mounted tuning forks having the same pitch are placed near each other, the striking of one causing it to vibrate, will produce vibrations in the other.

E. *Interference of Sound—Beats

We have seen how two sound waves are able to unite so as to reenforce each other, we are to note the effect of two sound uniting so as to interfere with or destroy each other.

Each sound wave is made up of one condensation and one rarefaction called phases. Let us imagine the effect of uniting two sound waves produced by two tuning forks, having exactly the same pitch, thereby producing waves of the same length. When the forks are placed at any number of whole wave lengths apart, the two train of waves will unite in like phases (condensation with condensation and rarefaction with rarefaction), and the result will be a reenforcement of sound. But if the two forks are placed at an odd number of half wave lengths apart, the two train of waves will meet in opposite phases (condensation with rarefaction and rarefaction with condensation), and the result will be an interference of sound. *If the condensation and rarefaction are exactly equal, one train of waves destroys the other.* The air particles, thus acted upon, will remain at rest, and silence is the result. *The phenomenon here described is called interference of sound.*

SOUND BEATS.

SOUND BEATS *are periodic variations in the intensity of a tone.* When two forks of unequal frequency are vibrating the waves sent out from them are of unequal length. Because the waves are of unequal length they alternately join and oppose each other; at times the two forks will be producing condensations and rarefactions simultaneously, at other times while one fork is producing a condensation, the other will be sending out a rarefaction. *This alternate interference and reenforcement of sound waves produces the phenomenon of sound beats.*

F. *Harmony and Discord

HARMONY *consists of any number of musical sounds so combined as to produce an effect pleasing to the ear.*

DISCORD *consists of such a combination of sounds as to produce an effect displeasing to the ear.*

PROPERTIES OF MUSICAL SOUNDS.

THE PROPERTIES *of musical tones may be studied by the use of the siren.* On the circular disk of a siren were placed eight concentric circles. Upon the circles thus drawn, beginning with the smallest circle, the following number of equidistant holes were drilled: 24, 27, 30, 32, 36, 40, 45, and 48. When the disk was uniformly rotated and a stream of air caused to strike against the holes in the smallest circle first and the others in succession, the tones produced were recognized as those belonging to the major scale.

The experiment shows that the major scale is a series of tones whose vibration frequencies have the same relation as the numbers 24, 27, 30, 32, 36, 40, 45, and 48. To these tones are given the names do, re, me, fa, sol, la, ti, do. It is upon these tones that our musical system is based.

THE MAJOR DIATONIC SCALE.

The *major diatonic scale* is made up of any series of tones whose vibration frequencies bear the same relation as the numbers 24, 27, 30, etc. Beside the names given to the eight tones mentioned they are designated by letters C, D, E, F, G, A, B and C. To the first tone corresponding to the number 24 is assigned the letter C and called middle C. Physicists assign to the tone middle C, 256 vibrations per second. This is the fundamental tone and from it the number of vibrations of all the other tones are derived. Thus the second tone of the major scale of C must be produced by 256X27/24, or 288 vibrations per second. This is called D. The next tone, E must have 256X 30/24, or 320 vibrations per second, etc.

TO DETERMINE THE VIBRATION FREQUENCY OF ANY TONE.

Beginning with C = 256 vibrattions, multiply 256 by the ratios 9/8, 5/4, 4/3, 3/2, 5/3, 15/8 *and* 2.

RELATIONS TABULATED.

Syllables—do, re, me, fa, sol, la, ti, do.

Letters—C, D, E, F, G, A, B, C.

Relative vibration numbers—24, 27, 30, 32, 36, 40, 45, 48.

Vibration ratios—1, 9/8, 5/4, 4/3, 3/2, 5/3, 15/8, 2.

Vibration numbers—256, 288, 320, 341, 384, 427, 480, 512.

MUSICAL INTERVAL.

A musical interval refers to the ratio of the frequencies of two simple tones; as when the ratio is 48/24 or 2 : 1, the interval is an octave.

MAJOR TRIAD.

The three notes C, E, G when sounded at the same time on a piano give a chord that is pleasing. The combination of these three tones is called a major triad.

G. *Vibration of Rods or Bars free at one end (effect of length)

Rods or bars may be made to vibrate both transversely and longitudinally.

When a rod fastened at one end is struck by a sudden blow at the free end, transverse vibrations are set up and a sound is produced. The longer the rod the lower the tone produced.

When a rod fastened at one end is rubbed briskly toward the free end, longitudinal vibrations are set up and a fundamental tone is produced. By experiment it has been shown that the longitudinal vibrations cause the rod to length slightly.

H. *Vibration of Strings (effect of length, tension, and mass per unit of length)

THE SONOMETER.

THE SONOMETER *is an instrument used to investigate the laws of the vibration of strings.* The essential parts are, one, two or three strings stretched by weights across

fixed bridges. A movable bridge is used to change the length of the vibrating string. Beneath the strings is a resonance box, to which the vibrations are conducted by the bridges.

THE PITCH OF STRINGS.

The pitch of a tone is obtained by varying the length, tension, and mass of the strings used.

LAWS OF THE VIBRATION OF STRINGS.

By means of the sonometer it has been shown that the following laws of vibration frequency varies.

1. INVERSELY *as the length of the strings.*
2. DIRECTLY *as the square roots of the tensions.*
3. INVERSELY *as the square roots of the masses per unit of length.*

LAW OF LENGTH.

Adjust two similar strings on a sonometer until they emit tones of the same pitch. Place the movable bridge at the center of one of the strings. When the strings are set vibrating, the tones of the shorter string will be found to be an octive higher than that of the longer string. Thus, by taking half the length of the string, the number of vibrations are doubled, and by taking two-thirds of the original length, the number of vibrations are increased three halves of the original vibration frequency. THUS THE LAW, *the frequency of strings is inversely proportional to their lengths.*

LAW OF TENSION.

Adjust two similar strings on a sonometer using two 1 lb. weights, each string having a tension of 1 lb. The strings emit tones of the same pitch. In order to produce a tone an octive higher in one of the strings than the other, the number of vibrations must be doubled, this requires a weight of 4 pounds. Hence by increasing the tension 4 times, we get 2 times the original vibration frequency. THUS THE LAW, *the vibration frequency of strings is directly proportional to the square roots of their tensions.*

LAW OF MASS.

Adjust two strings on a sonometer of the same material, length and tension, but of different sizes. Take strings having the diameter of one twice that of the other. If the diameter of one is twice that of the other, the mass of one will be 4 times that of the other, as the masses are as the square of their diameters. When both strings are vibrating, the pitch of the smaller will be an octive above that of the larger. Hence by increasing the mass 4 times we get one-half the original vibration frequency. THUS THE LAW, *the vibration frequency of strings is inversely proportional to the square roots of their masses per unit of length.*

SUMMARY OF LAWS.

A string of half the length, or four times the tension, or one-fourth the mass of a given string, will vibrate just twice as fast as a given string. A string of one-third the length or nine times the tension, or one-ninth the weight of a given string, will vibrate three times as fast as the given string.

FUNDAMENTAL TONES AND OVERTONES.

A string may vibrate transversely as a whole, or in segments.

The fundamental tone is the tone produced when the string is vibrating as a whole. It is the lowest tone that a string can produce.

The overtones or partial tones are the tones produced when the string is vibrating in segments. By touching a vibrating string it may be made to vibrate in any number of desired segments. If a vibrating string is touched exactly in the middle, a tone is produced an octave higher than its fundamental tone. The string now vibrates in such a way that the point touched remains at rest, the amplitude of vibration is zero and is called a node. When the vibration frequency of an overtone is 2, 3, 4, 5, etc., times that of the fundamental tone, it is an harmonic.

I. *Pitch of Open and Closed Pipes

The sounds of wind instruments are produced by vibrating columns of air confined in tubes called pipes. The pitch of the tones given out by an organ pipe depends mainly on the length of the air column. Organ pipes are either open or closed.

THE PITCH *of a* CLOSED *pipe is always an octave* LOWER *than that of an* OPEN *pipe of the same length.*

VIBRATIONS OF AIR COLUMNS.

In an open pipe, when it is yielding its lowest tone, there is an antinode at each end and a node in the middle. A wave length is equal to 4 times the distance from an node to an antinode, or twice the length of the air column in an open pipe. In a closed pipe, where it is yielding its lowest tone, there is a node formed at the closed end of the tube and an antinode near the open end. The wave length is 4 times the length of the tube Thus the fundamental tone of a closed pipe produces wave forms that are twice as long as those of an open pipe, thus vibrating one-half as fast. Since pitch depends upon vibration frequency it is clear that the pitch of an open pipe is an octave higher than that of a closed pipe of the same length.

Type Problems

1. A man claps his hands and hears the echo in 6 seconds. How far away is the reflecting surface, the temperature being 20° C.?

Velocity of sound at 20°C. $= 1090 + (2 \times 20)$.

$V = 1130$ *ft. per second.*

Distance = velocity X *time.*

$d = 1130 \times (6 \div 2)$.

$d = 3390$ *ft. Ans.*

2. The vibration frequency of a tone is 264. Calculate the vibrating frequency of E. F. and an octave below middle C.

$E = 264 \times 5/4 = 330$ *vibrations per second.*

$F = 264 \times 4/3 = 352$ *vibrations per second.*

Octave $= 264 \times 1/2 = 132$ vibrations *per second.*

3. Determine the interval between the pitches of two tuning forks each making 256 and 492 vibrations per second.

Ratio of the vibration frequencies=256/-192 = 4/3, *the ratio of fourth of the scale, or the key of F.*

4. If a sonometer string 2 feet long gives 128 vibrations per second, what must be the length of a similar string, having the same tension, to give 768 vibrations.

Since the vibration frequency of strings is

$N : n = l : L$

$128 : 768 = l : 2$

$l = 768 \div 256$

$l = 3$ *ft. Ans.*

5. What is the wave length of the tone produced by a closed pipe 4 ft. long? How long must an open pipe be to give the same tone?

Closed pipe $= 4 \times 4 = 16$ *ft. wave length. Ans.*

Open pipe $= 16 \div 2 = 8$ *ft. wave length. Ans.*

Drill Problems.

1. Compare the fundamental tones produced by a stopped organ pipe 3 feet long and an open organ pipe 9 feet long.

2. The vibration rate of a tuning fork is 256. Find the wave length of a note emitted by it at 24° C.

3. A gun is fired at a target 2000 ft. away, and the echo is returned to the gunner in 5 seconds. Calculate the velocity of sound.

4. What is the tone produced by a siren revolving 50 times per second, if the number of holes in the row is 24?

5. If a tuning fork gives 480 vibrations per second, what must be the length of a resonator tube for it, when the temperature is 20° C.?

Drill Questions.

1. Explain how the three characteristics of sound, loudness, pitch and quality, are varied in the construction or manipulation of some common musical instrument.

2. A wire stretched by a certain force gives a tone of definite pitch; what change in the stretching force would raise the pitch one octave?

3. Describe an accurate method of determining the velocity of sound in air.

4. Explain why there is a rise in the pitch of a locomotive whistle when the train is rapidly approaching an observer and a corresponding fall when it is moving away.

5. What strings of the piano give (a) the lowest notes, (b) the highest notes, (c) why?

6. Describe an experiment to illustrate each of the following: (a) a node, (b) an overtone.

7. How is an echo produced? Describe the conditions necessary to produce two or more echoes of the same sound.

8. Describe an experiment to illustrate the production of sound beats, and explain how the beats are produced.

9. Destinguish between (a) music and noise, (b) harmony and discord.

10. What is the purpose of the following: (a) sounding board in a violin, (b) the reed in a clarinet, (c) the mouthpiece in a cornet, (d) the drum skin in the ear, (e) the transmitter of a telephone, (f) the bell on a phonograph?

Book Reviews

AMERICAN BOOK COMPANY.

STOLTZE'S LOSE BLATTER. By *Erna M. Stoltze*, author of "Bunte Geschichten." Cloth, 16mo, 127 pages. Price 30 cents.

A collection of interesting short stories not fairy tales, compiled for beginners in German. It contains a few riddles by Schiller and Goethe, some tales from German mythology, and a few Christmas and Easter legends. A set of questions based on the text provides material for conversation, and full notes and a complete vocabulary give all needed assistance.

WILDENBRUCH'S DER LETZTE. Edited by *J. H. Beckmann, A.M.*, Westport High School, Kansas City, Mo. Cloth, 16mo, 139 pages. Price, 30 cents.

Wildenbruch is considered one of the most talented modern German writers, and this interesting and pathetic little story is a masterpiece. It displays well the author's clear and simple style and his sympathetic understanding of child life. The story describes a German officer's inability to show his really devoted love for his two little motherless children, the loss of his eldest son, and the pathetic death of the young survivor. The text is accompanied by the usual explanatory footnotes, exercises for translation and grammatical drill, and a full vocabulary, suitable for second year students.

LUCIA'S PETER AND POLLY IN SUMMER. Cloth, 12mo, 144 pages, illustrated. Price, 35 cents.

This continued story for second and third year supplementary reading is a delightful account of the natural life of Peter and Polly, two little children who live in the country. The author, Rose Lucia, principal of the Primary School, Montpelier, Vermont, evidently understands children. Her true interpretation of child life in the country is a message of joy for all children and especially for city children, whose imagination must supply what is lacking in experience.

CLARK'S GENERAL SCIENCE. By *Bertha M. Clark, Ph.D.*, Head of Science Department, William Penn High School for Girls, Philadelphia, Pa. Cloth, 12mo, 368 pages, illustrated. Price, 80 cents.

This book aims to help students prepare for life by showing them how to conserve energy. It deals with physics, chemistry, and hygiene, as those subjects relate to phenomena observed in everyday life. The thirty-five chapters treat Heat, Light, Food, Bleaching, Electricity, Inventions, Musical Instruments, and other practical topics for the purpose of arousing permanent interest in all those factors in environment by whose help man's limited physical strength is made effective for larger tasks." The book is a clear, sensible application of scientific knowledge to daily experience.

FRITZ AND ELDRIDGE'S EXPERT TYPEWRITING. A complete course in touch typewriting. By *Rose L. Fritz,* winner of thirteen consecutive champion typewriting contests, and *Edward H. Eldridge, Ph.D.,* Head of Department of Secretarial Studies, Simmons College, Boston; Author of "Shorthand Dictation Exercises." Cloth, oblong octavo, 181 pages, with forms and diagrams. Price, 85 cents. Business Forms for use in connection with the above. Pad 8 x 10 1-2 inches. Price, 20 cents.

The aim of this comprehensive course is to give the student the two prime essentials of a good typewriter operator—accuracy and speed; but accuracy has never been sacrificed to speed. The work has been developed constantly and progressively, each lesson being planned to teach some definite thing. The book consists of forty lessons, divided into two parts: Part I, the elementary course, and Part II, the advanced course. Part I, consisting of thirty-two lessons, is complete in itself, and may be used in night school or other short courses, where the time spent in typewriting is not sufficient to complete the entire text. It is intended to make the student a thorough touch writer, and enable him, with moderate speed, to enter upon the duties of an operator in a business office. Part II deals more fully with present day business methods, and furnishes a great amount of material for the acquiring of speed, including "A Day's Work for a Typewriter Operator."

RABENORT'S GEOGRAPHY: North America and South America, Europe. By *William Rabenort, Ph. D.,* Principal of Public School 9, The Bronx, City of New York. Cloth, 8vo., with maps and illustrations. Price, 50 cents per volume.

These volumes treat of the western hemisphere (exclusive of the United States), and of Europe, primarily as the home of the human race. The author introduces facts of history, biography, art, science, travel and general information which have distinct geographical aspects. Transportation, communication and movements of population are treated fully. The explanations of geographical facts and conditions will satisfy the pupil's inquiries, while the questions and exercises will arouse his interest and attention. The connection of physical and social facts with their geographical bases and effects is well explained. Each volume has more than twenty detailed maps and nearly two hundred attractive illustrations from photographs.

D. APPLETON & COMPANY.

THE APPLETON ARITHMETICS. Primary Book, Second Book, Third Book, Grammar School Book. By *J. W. A. Young,* of Chicago University, and *Lambert L. Jackson,* formerly Professor of Mathematics, State Normal School, Brockport, N. Y.

The reputation of the authors of these books suggests the best in theory and practice in mathematics. The four books employ the inductive method of presenting definitions, principles and processes. The development is followed by easy oral exercises, and then the application involves written exercises that contain more difficult calculations. In relation to the aim of mathematics, the books recognize both culture value and utility.

"The problem material is rich in data drawn from the pupil's experience. School subjects like manual training, domestic art, geography, nature study, and drawing have furnished many problems; and the every-day occupations and industries of the average commun-

ity are made to contribute their share of applications. Finally, the larger interests of the community, such as production, transportation, communication and government, have not been neglected as sources of problems of interest and value."

The arrangement of the work in the series is flexible enough to suit the various systems of grading in the schools. The Primary Book, for instance, satisfies the needs of Grades 1, 2, 3, 4; the Second Book, Grades 5 and 6; the Third Book Grades 7 and 8; while the Grammar School Book is arranged in two parts, covering the work of the four Grammar Grades. Part I. begins "with a brief review of the work of the primary grades, and then provides a course that covers the essentials of elementary arithmetic. Part II reviews and summarizes in a formal way the theory of arithmetic, furnishes more difficult drill, extends its applications into advanced business arithmetic, and introduces such algebra, geometry and measurement as prepare for high school work.

"Other features that the teacher may appreciate are the frequent and systematic reviews; the oral and written work, properly labeled; the well-balanced abstract and concrete drill; the classified tables of measurement, and the attempt to supplement and strengthen the text by careful typography and effective illustration."

The quoted parts are from the preface. An examination of the books shows that those viewpoints are fully sustained.

D. C. HEATH & COMPANY.

THE ELEMENTARY ARITHMETIC. By *Bruce M. Watson,* Superintendent of Schools, Spokane, Washington, and *Charles E. White,* Franklin School, Syracuse, New York. Cloth, 308 pages. Price, 35 cents.

THE COMPLETE ARITHMETIC. By *Bruce M. Watson* and *Charles E. White.* Cloth, 404 pages. Price, 60 cents.

These books are both cumulative and topical in plan. They hold the middle ground between the old conservatism and the new extremes. They proceed on the assumption that but few things are needed in arithmetic, and that those few are to be taught thoroughly. While comprehensive in scope, the books are really brief because of a wise omission of the antiquated and the useless. They appeal to youthful interest without distracting attention by using material that has no legitimate place in the serious mastery of mathematics. The methods in the advanced work are consistent with those in the elementary. They aim to cultivate in pupils the habit of forming vivid mental pictures of the business transactions introduced in the exercises, and commercial and industrial relations of the numbers involved in the problems. They are so graded as to secure a high degree of facility in the fundamental operations and in those other processes which in the actual business of life are reduced to purely mechanical forms of computation.

HINDS, NOBLE & ELDREDGE.

THE VERY FIRST BOOK. By *Mary Donovan,* Northern Liberties Primary School, Philadelphia, Pa.

The aim of this little book of 48 pages is to give the child something he can understand the first day of school. The book is meant to precede, not to displace, the usual Primer. Following are its characteristics:

It is full of pictures, of course, clear, simple line-drawings that the child wants to look at and keep looking at, and then try to copy with his own unruly little pencil.

It is pleasing to take hold of, alluringly crispy and clear to look inside of, and alternates script and print, at first.

It makes the first baby sentences as attractive to examine as the first simple drawings of toys and nursery pets and children.

It is so short that the child may well know each page by heart before he is ready for the more formal reading of his primer.

It is so inexpensive that the consideration of economy can't eliminate it from the Very First Days of school life,—the days that can so well be used at happily bridging the great gap between the sight-reading play-work of the nursery days and the more mechanical real work of the primary school.

OUR CITY. By *Helen K. Yerkes,* Principal George H. Thomas School, Philadelphia, and *Walter Lefferts,* Principal Thomas G. Morton School, Philadelphia. 82 pages, illustrated. Price, 40 cents.

The purpose of this book is to give city children a knowledge of the organized life of the city and to inspire them to share the responsibility of citizenship. The books is designed for use in the school, in the home, in children's clubs—in every place where there is a child who can read.

The book is the outgrowth of a new need, the need of the city child for an intimate knowledge of his environment. Most of the books on civics satisfy the viewpoint of rural life, but this book aims to satisfy the modern viewpoint in city life. It is in no sense an argument for the superiority of city life, but it is a plain attempt to give every school child the kind of knowledge which is conducive to individual and community welfare.

The chapter headings are: Streets, Traveling About, Pipes, Wires, Food, Waste, News, Protection, Factories and Stores, City Play, Schools, Nature in the City, What a City Gives Us, What We Can Do for Our City. Each chapter has questions for oral or written answers. The line drawings offer training in graphic expression by inviting the child to reproduce the simple sketches. An appendix contains a spelling vocabulary and a reading vocabulary. Thus OUR CITY utilizes the correlated means in making young citizens possess mental, moral and physical worth.

THE MOST POPULAR SONGS. Plantation Songs, 50 cents; College Songs, 50 cents; Home Songs, 50 cents. By *Gilbert Clifford Noble, A.B.* (Harvard).

A few years ago Hinds & Noble offered the public a compilation of popular songs, and the response was so favorable that this new line of books has been developed into a series. If there were no other books in the series, Mr. Noble has earned the gratitude of lovers of music by bringing out the three books mentioned above. THE PLANTATION SONGS include more than one hundred popular melodies associated with negro life in this country. They are, as the author says, the gift of the negro child's mind. "That gift was simple song; it couldn't have been written if the negro did not suffer as a child suffers when he is hurt, and laugh at the world as a child laughs at it when he is fed and unfettered." But the sentiment embodied in the collection of songs is larger than section or race; it is limited only by the power of response to that which appeals to the tender emotions in human nature.

THE MOST POPULAR COLLEGE SONGS are already well known. "On the Chapel Steps" comes first. Then follows the best of a whole musical vocabulary of a

springtime on the campus. "Lauriger Horatius" is here for dignity, "Love's Old Sweet Song" because it has to be. "H' SO'" has undoubtedly been chosen for its deep moral lesson. "The Son of a Gambolier," "Crambamuli," "Rig-a-jig," "Lone Fish Ball," "Menagerie," boisterous as they are, are the masterpieces of this collection of typically high-spirited college songs.

THE HOME SONGS are such as the title indicates. Here is a song book with its character told on its cover. A red blaze warms the picture of the open fire place, and the andirons shine. There is a household cat by the great arm chair. In the glow it almost purrs aloud—and the shadows are full of remembering. Isn't the dancing blaze and the gleam on the wall a part of the spirit of "Warrior Bold," "Jingle Bells" and "Three Blind Mice"? There are a dozen snatches like these in the collection. The comfort of the deep chair belongs to "'Auld Lang Syne," to "Emmett's Lullaby," to the "Rock of Ages" and to many other staunch old religious favorites as well loved as this one. "In the Gloaming" and "Tenting Tonight" belong to the shadows. That splendid little lyric, "Drink to Me Only With Thine Eyes" is only one of the selections that vouch for the excellent judgment of the compiler of The Most Popular Home Songs.

HOUGHTON MIFFLIN COMPANY.

ROMEO AND JULIET. Edited with introduction and notes by *William Struck, Jr.*, Professor of English in Cornell University. 129 pages. Cloth. Price, 25 cents.

This is one of three especially strong college numbers recently added to the Riverside Literature Series. The other two are Milton's "Of Education, Areopagitica, The Commonwealth," with four early biographies of Milton, edited by Laura E. Lockwood, Associate Professor of the English Language in Wellesley College; and "Le Morte Arthur," a Middle English metrical romance, edited by Samuel B. Hemingway, Instructor in English in Yale University. The unusual editorial equipment of these volumes will appeal to all instructors in college English. They embody the results of the latest and best scholarship, and should therefore be stimulating to the instructor as well as helpful to the student of English.

THE TEACHING OF HIGH SCHOOL MATHEMATICS. By *George W. Evans*, Headmaster of the Charlestown High School. 90 pages. Cloth. Price, 35 cents.

"The chaotic condition in which the discussions of the past decade have left the subject of mathematical teaching suggests the desirability of presenting, in small compass, a systematic restatement, not merely in terms of a general theory, but also in the more useful form of a series of concrete suggestions as to the material and methods to be used. This volume is offered with the assurance that it serves this definite purpose."

The quotation is the concluding paragraph in the Introduction by Professor Suzzallo of Teachers College. In treating the modern reform movement in relation to theory and practice in mathematics, Mr. Evans arranged his work under these chapter headings:

I. The Modern Point of View.
II. The Order of Topics.
III. Equations and Their Use.
IV. Some Rules of Thumb.

V. Geometry as Algebraic Material.

VI. The Graphical Method.

VII. The Basis of Proof in Geometry.

IX. Simpson's Rule and the Curve of Sections.

X. The Teacher.

The book is commended for a terse, scholarly treatment of a large subject.

J. B. LIPPINCOTT COMPANY.

THE AMERICAN GOVERNMENT. By *Frederick J. Haskin.*

Mr. Haskin has become well known as authority on topics requiring wide and unusual research. The announcement of his book on the American Government was welcomed especially because his treatment of the subject assured a popular exposition of the working of our national government. Now we have a complete book of 398 pages with the author's frank statement that his book is not designed "as a treatise on the science of government, nor as an exposition of the peculiar structure of the United States. It is, rather, an effort to tell in the ordinary language of everyday life what the government does and how it does it." In another paragraph Mr. Haskins says: "It is a plain account of how the President, the Congress, the Supreme Court, and all of the other half million servants of the American public do the work of the people for the people."

The book is all the author claims, and more. It satisfies the demands for popular exposition and, at the same time, carries the authoritative approval of men recognized as experts on the matter in the respective chapters. Each of the thirty chapters was read and approved by an authority before the book was published. The names of those authorities appear on the page opposite the title page.

THE AMERICAN GOVERNMENT deserves a place on the reference shelf in every classroom.

CIVIL GOVERNMENT. By *Edward Schwinn, A. M.,* Supervising Principal of Mt. Airy School, Philadelphia, and *W. Wesley Stevenson, A. M.,* Professor of History in the Northeast Manual Training High School, Philadelphia.

This text-book is a good companion volume to Haskin's The American Government, because each supplements the other while both remain unique. CIVIL GOVERNMENT is intended as a text-book for class use and it is sent forth by the authors in the hope that "it may be a blessing to American youths in preparing them for the efficient and honorable discharge of the responsible duties of citizenship."

This book describes the various forms of local, state, and national government, and discusses the government of the United States from the viewpoint of historical development. The first chapter deals with Nature and Necessity of Government and then passes to Local Government; and then fifteen other chapters complete the whole history of this nation. The book contains all the changes made necessary by recent acts of Congress, as well as full details regarding the new Judicial code which became effective January 1, 1912.

Summaries and questions are placed at the end of each chapter, and various outlines and tables are used as other aids

in study. Thus in content and plan the book is well adapted to the needs of pupils and teachers.

THE MACMILLAN COMPANY.

OLD TIME TALES. By *Kate F. Oswell.* Illustrations by Esther J. Peck. Price, 40 cents net.

This book gives some of the famous Folk Tales of the world. The selection includes nine Tales of Europe and the Occident, six Old Ballads and six Tales of the Orient.

In giving the number of tales, it is not intended to limit the worth of the book. The single story of The Wolf Mother of St. Ailbe is enough to give this book a justifiable place in Everychild's Series, in which it is placed.

POEMS, NARRATIVE AND LYRICAL. Edited by *Robert P. St. John,* Head of the Department of English, The Commercial High School, Brooklyn, N. Y. Price, 25 cents net.

The poems in this volume are those required for college entrance. "They have been edited as simply as possible," says the editor, "with the desire to be of service to both pupil and teacher." The collection includes Elegy Written in a Country Churchyard; The Deserted Village; Childe Harold's Pilgrimage, Canto the Fourth and The Prison of Chillon; and a dozen poems from Robert Browning.

The simplicity of treatment is an admission by the editor that he wished to adapt the poems and his own work to the capacities of the pupils. This kind of simplicity is a commendable feature too often overlooked by scholars who seem to forget the actual needs of boys and girls in the high schools. The matter in the editor's notes is as simple as his style, all the related facts of geography, history, mythology, art, and literature, being presented so that pupils can easily master them. The interpretative study of the poems under such conditions makes literature a fascinating subject for high school students.

THE TEACHING OF PHYSICS. By *C. Riborg Mann,* Associate Professor of Physics, The University of Chicago.

This book is an argumentative exposition of physics as an amalgamation of vocational and cultural work. The author feels that educators have gone too far in arraying themselves as culturists or vocationalists. He substantiates his view by quoting from President G. Stanley Hall: "In point of fact, we psychologists must make the mortifying confession that we know almost nothing of pure culture values, either what they are or how to acquire them. But we do know that to succeed an individual must put his whole soul into his work, and that the study of even Greek, Latin, and logic in a half-hearted way is demoralizing and soporific. We know, too, that if most men do not find culture in their own vocation they will never find it. Anything is cultural that arouses the ambition of young people to do their best; hence whether a topic is cultural or practical depends wholly upon the point of view and the spirit."

In harmony with this quotation, the whole book is a vigorous and inspiring treatment of physics from a point of view that deserves recognition in the larger conception of education. The list of the chapter headings may suggest further the strength of the author's position.

PART I.

The Development of the Present Situation.

Chapter I. The Background.
Chapter II. Natural Philosophy.
Chapter III. Prescribed Physics.
Chapter IV. Textbooks, Old and New.

PART II.

Physics and Democratic Education.

Chapter V. The Pedigree of Physics.
Chapter VI. The Method of Physics.
Chapter VII. The Biography of Physics.
Chapter VIII. The Discipline of Physics.

PART III.

Hints at Practical Applications.

Chapter IX. The Concrete Problem.
Chapter X. The Organization of the Course.
Chapter XI. The Laboratory Work.
Chapter XII. Testing Results.

BEGINNINGS IN AGRICULTURE. By *Albert Russell Mann,* Secretary to the New York State College of Agriculture at Cornell University. The Rural Text-Book Series, edited by L. H. Bailey. Price, 75 cents net.

This text-book is designed for use in the seventh and eighth grades of the elementary schools, in ungraded special and private schools, and in the smaller high schools. The work is covered according to the accepted method of nature study, namely, by bringing the pupil into close touch with the subject-matter of the lessons. In matter and method, the book conforms to the suggestions in the report of the Committee on Industrial Education in Schools for Rural Communities, of the National Education Association.

The book is arranged in Four Parts as follows:

Part I. The Affairs of Agriculture. This part deals with the farm and all of its equipment.

Part II. The Soil. This is a simple but specific treatment of the soil and all the other related elements in plant life.

Part III. Farm Plants.

Part IV. Farm Animals.

The division of the book into forty-one chapters puts the subject-matter into clear topics that are easily mastered as unities in the related whole. Every topic is fully and clearly discussed, and many illustrations from real photographs are used to enforce the context. The essentials of every chapter are more firmly impressed by a series of problems which bring the facts close to the lives of the pupils.

CHARLES E. MERRILL COMPANY.

DIE JOURNALISTEN. By *Gustave Freytag.* Edited with Introduction, Notes, Questions, and Vocabulary, by Dr. Harry A. Potter, First Assistant, Girls' High School, Brooklyn, N. Y. Cloth, 264 pages. Price, 60 cents. With portrait.

Die Journalisten, a play in four act, by Gustave Freytag, perhaps the greatest of modern German novelists, has just been added to Merrill's German Texts. High German ideals and the best in the German national feeling are embodied in the play. Its interest and value have given it a prominent place in the read-

ing of high school and college classes in German.

The text is that of the latest Leipzig edition. Dr. Harry A. Potter, recently elected Principal of Bay Ridge High School, Brooklyn, has prepared a careful introduction, including a biography of Freytag and a discussion of Freytag's place in literature. A short abstract of the important characters of the play arouses interest in it without disclosing its salient features. The series of German questions on the content of each act, the theme subjects for free repreduction, and the vocabulary appended to the text, constitutes a mine of information and resource to teacher and pupil alike.

WASHINGTON'S FAREWELL ADDRESS and WEBSTER'S FIRST AND SECOND BUNKER HILL ORATIONS. Merrill's English Texts. Edited with an Introduction and Notes by Fred. A. Smart, A. B., Department of English, Tilton Seminary, Tilton, New Hampshire. With portraits. Cloth, 130 pages. Price, 25 cents.

In editing the speeches Mr. Smart has written brief biographical and critical sketches, an admirable account of the battle of Bunker Hill and the building of the monument, explanatory notes, and exercises for study.

DURELL'S SCHOOL ALGEBRA. By *Fletcher Durell, Ph.D.*, Head of the Mathematical Department, Lawrenceville School, Lawrenceville, N. J.. Frontispiece, 507 pages, cloth. Price, $1.10.

This text is designed to be available for use in the eighth grade of the grammar school and is at the same time sufficiently rigorous to meet all the requirements of College Entrance Examinations. It lays unusual stress on the elementary work, devoting more than one hundred thirty page to the discussion of the fundamental principles. In common with the other books of the Durell Mathematical Series, it aims to give a larger educational value to the subject and to adapt it better to the practical American spirit.

Dr. Durell's main object in this book is to simplify principles and give them interest by showing the practical reason for every step or process. He shows that new symbols are introduced into algebra because of definite advantages in representing numbers. Each successive process is adopted for the sake of economy or new power.

Attention is directed to the following features of School Algebra:

1. A large number of written problems grouped in types.

2. Many informational facts in the written problems.

3. Self-activity of the pupil required in making problems and solving them.

4. The examples require a frequent review of the principles of arithmetic.

5. Numerous and thorough reviews, both oral and written.

6. The history of algebra is discussed in Chapter XXVI.

CHARLES SCRIBNER'S SONS.

BEGINNER'S GERMAN. By *Max Walter, Ph. D.*, Director of the Musterschule (Realgymnasium), Frankfurt am Main, Visiting Professor, Teachers' College, Columbia University, 1911; and *Carl A. Krause, Ph.D.*, Head of

the Department of Modern Languages, Jamaica High School, N. Y., Lecturer on Methods of Teaching Modern Languages, New York University,

It is a pleasure to speak favorably of a text-book that has already been strongly endorsed by teachers who are competent to pass judgment upon the worth of a text-book adopted for class use. The endorsement to which reference is made came from teachers who have already tested this book in the high schools of New York City.

BEGINNER'S GERMAN is the basic book in a German series by these two authors. This book aims to give the learner mastery of conversational German as well as literary language. The lessons start with the immediate environment of the pupils and proceed according to a development that is interesting because it is natural and useful. Matter and method are determined by the needs of the pupils rather than by abstract pedantry.

The preface suggests a plan of procedure that is as welcome to teachers as to pupils. Following are the six suggestions:

1. Develop the material orally, with books closed.

2. Ascertain by questions and answers whether the pupils have the proper understanding of the oral work. Every answer should be repeated by the class.

3. Call for a continuous oral review of the whole.

4. Have the assignment read, individually and in chorus.

5. Let the matter covered be written or dictated.

6. Be sure that definite grammatical facts are gained in each lesson. Let a thorough drill in sounds be connected with all beginning lessons; never let a wrong pronunciation pass muster. Do not assign a lesson unless it has been prepared in class.

The questions in this book are intended as a safe guide for the student in his review at home. In the use of the questions, as in the use of the suggestions relating to method, the teacher is asked not to sacrifice her own judgment.

Grammar is taught inductively and thus pupils become masters of the laws of language by the empirical process. It is a process of self-development by use.

The mechanical features of the book deserve special mention. Clear type and liberal spacing are two inviting features not usually found in text-books for beginners.

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STUDY AT HOME

The inquiries about summer courses indicate that 1912 will be an active season in professional study. Some good schools are advertised in this number of our magazine, but many teachers cannot leave home during vacation. If you are one of them, let me tell you that five hours a week will give you what you need if you study the right material. In saying this, I am speaking for my own publications, but you need not depend wholly upon my judgment; just ask your friends what text-book on methods of teaching is the best for home study. Then ask them how you can master the essentials of history of education in two months. They will refer you to my EPITOME. If you need to get a good hold on principles of education and all other large topics in education, better save your energy by using my SCIENCE OF EDUCATION. Write for special offer this month.

BOOKS FOR TEACHERS

McEVOY'S SCIENCE OF EDUCATION, 327 PAGES, $2.

SECOND EDITION, JANUARY, 1912.

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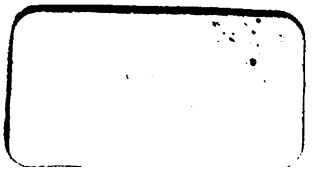
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